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Politics this week

Jun 19th 2003
From The Economist print edition

Flushing them out

Reuters

American forces launched a series of armed raids against pockets of **Iraqi resistance** in and around Baghdad. Some 400 people have been arrested so far, including Abed Hamid Mahmud al-Tikriti, Saddam Hussein's presidential secretary and close aide.

See article: Still fighting

Jordan held its first election since King Abdullah dissolved parliament two years ago. Independents loyal to the king won most of the 110 seats in an expanded legislature; the Islamist opposition won about half the 30 seats that it contested.

See article: Jordan's fairly fair election

John Wolf, America's special **Middle East** envoy, struggled to salvage the road map; Colin Powell, America's secretary of state, was due to join him. Hamas, a Palestinian Islamist movement, came under Egyptian pressure to agree to some sort of ceasefire; Ariel Sharon, Israel's prime minister, confirmed that there could be no deal so long as attacks on Israelis continued.

See article: Calling for a ceasefire

The nightly protests by students and others in **Tehran** petered out, under attack from hardline Islamic militia, though there were reports of demonstrations in other Iranian cities. The French police arrested more than 150 members of the People's Mujahideen, an armed Iranian opposition movement with political headquarters in Paris.

See article: Iranian student protest

Libya's leader, Muammar Qaddafi, called for the abolition of the public sector, including the oil industry, which earns 90% of the country's income, on the grounds that nobody in Libya knows how to run it.

The emir of **Ras al-Khaima**, one of the seven statelets of the United Arab Emirates, abruptly named a junior son as crown prince in a snub to his eldest son, who had held the office for over 35 years.

Liberia's government and rebel groups agreed to a ceasefire. If this holds, President Charles Taylor is due to hand over to a transitional regime.

See article: Liberia's civil war and ceasefire

Morocco's appeal court upheld a prison sentence (but reduced the term from four to three years) against Ali Lmrabet, the editor of two satirical weeklies, who is accused of insulting the king. Mr Lmrabet has been on hunger strike for over a month.

Ban the bomb

George Bush said America would “not tolerate” an **Iranian nuclear bomb**. The International Atomic Energy Agency accused Iran of concealing some of its nuclear activities. And the European Union's

foreign ministers said that force could be used, as a last resort, in a global campaign to stop countries not authorised by the UN from having weapons of mass destruction.

See article: Weapons of mass destruction

The EU's agriculture ministers continued to argue over proposed reforms to Europe's **common agricultural policy**. France led the opposition.

AFP

See article: France's blocking tactics over CAP

More than 77% of **Czechs**, in a turnout of 55%, voted to join the European Union.

A bill to grant **Italy's** five most senior figures, including the prime minister, immunity from prosecution while in office was passed in parliament and is expected to come into force within days, after the president signs it. Silvio Berlusconi, the prime minister, has been on trial for bribing judges.

See article: Italy's prime minister

Finland's first female prime minister, Anneli Jaatteenmaki, resigned after two months in office. She had been accused of failing to tell the truth about some leaked foreign-ministry documents with which she embarrassed her chief opponent in a general election in April.

See article: Finland's prime minister is ousted

The populist former leader of **Austria's** far-right Freedom Party, Jörg Haider, seemed about to attempt a comeback to national politics. This threatens the stability of Chancellor Wolfgang Schüssel's ruling right-wing coalition. The Freedomites, without Mr Haider at their head, are a junior partner.

See article: Austria's Jörg Haider

Sporadic strikes continued throughout **France**. Meanwhile, the prime minister, Jean-Pierre Raffarin, sent a letter to every household in the country explaining why he would not retreat from his controversial plan to reform public pensions.

Talking of peace

Pakistan's President Pervez Musharraf said on a visit to London that high-level peace talks with India could take place this year. Earlier, India said talks depended on an end to the movement of Muslim militants into Kashmir from Pakistan.

See article: India and Pakistan

Myanmar was publicly criticised by the Association of South-East Asian Nations for detaining the democracy campaigner, **Aung San Suu Kyi**. It was the first time ASEAN had rebuked a member state.

See article: ASEAN and Myanmar

A third of **Afghanistan** is off-limits to UN workers because of lack of security, a UN official told the Security Council. The UN was told that Afghanistan remained the world's largest opium producer.

Bashed by the bishop

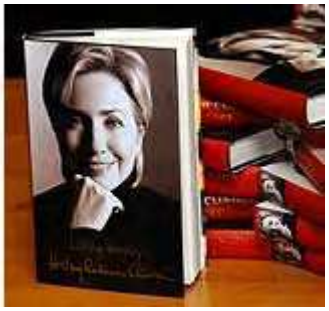
The bishop of Phoenix was charged in a **hit-and-run** car accident that killed a jay-walker. The pope accepted Thomas O'Brien's resignation.

See article: The Catholic church in trouble

An **Arabic-speaking general** has been nominated to replace General Tommy Franks as head of America's Central Command. John Abizaid is currently General Franks's second-in-command.

Riots broke out in Benton Harbour, a poor Michigan town, after a black motorcyclist was killed in a police chase.

Reuters



Hillary Clinton's “Living History” sold more copies in its first week in America than any other book except “Harry Potter and the Goblet of Fire”. The next Potter epic is unveiled on June 21st.

See article: Harry Potter and product licensing

Gay union

Canada's government said that it would draft a bill legalising same-sex marriages. The announcement came a week after Ontario's Court of Appeal had ruled that such unions were legal. More than 100 couples rushed to get hitched.

See article: Canada's move towards allowing same-sex marriage

Brazil's central bank cut interest rates (by half a percentage point, to 26%) for the first time since July. The move will defuse criticism of the government's tight policies. Brazil's currency and bonds dipped a little, but some analysts believed falling inflation justified the rate cut.

See article: Brazil's heated debate over interest rates

Ecuador's oil workers trickled back after a nine-day strike in protest at government plans, now likely to be diluted, to open up more of the industry to private investment.

See article: Ecuador's strike wave

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Business this week

Jun 19th 2003
From The Economist print edition

Softening the blow

PeopleSoft sweetened its offer for **J.D. Edwards**, a rival business-software firm, in an attempt to outmanoeuvre Oracle, which had made a hostile bid of $5.1 billion for PeopleSoft. Around half the $1.75 billion all-share offer for J.D. Edwards is now in cash. Oracle swept aside the rejigged offer by raising its own cash offer for PeopleSoft to $6.3 billion.

Microsoft held up its hand against the tide of spam. The software giant filed 15 lawsuits in America and Britain against the producers of e-mailers' biggest bugbear, accusing them of sending some 2 billion deceptive unsolicited messages to users of its MSN and Hotmail services.

America and 29 other countries, including Britain, Japan and Australia, announced efforts to **crack down on spammers**, telemarketers and other conmen who operate internationally. The agreement will ease the investigation of cross-border fraud.

See article: Microsoft calls in the lawyers

Jumbo orders

Airbus won the latest phase of its dogfight with **Boeing**. The European consortium signed a deal to supply 41 planes to Emirates Airline, worth some $12.5 billion. The order includes 21 of Airbus's A380 super-jumbos. Qatar Airways announced a $5.1 billion deal to buy 18 planes from Airbus, with an option for 16 more. Korean Air ordered eight planes from Airbus but consoled Boeing with an order for nine aircraft.

Britain's **WPP** beat France's **Publicis** in a tussle over the bones of Cordiant, a smaller British ad agency. The British media giant will buy the ailing ad firm for about £265m ($447m), though shareholders will get just £10m—most of the cash will go to repay debt.

America's **Zimmer** and Britain's **Smith & Nephew** are slugging it out for control of Centerpulse, a Swiss maker of medical devices. Zimmer confirmed its bid of $3.1 billion; S&N is now likely to improve its offer of $2.6 billion. Both firms are keen to gain a bigger share of the market for artificial joints; the world's ageing populations mean more creaking limbs.

Vivendi Universal's fortunes improved a bit. The French media giant made a first-quarter loss of *euro*319m ($342m), compared with a loss of *euro*815m a year ago. Vivendi raised the possibility of a partial float of Universal Studios and other American businesses to raise cash to pay off burgeoning debts, rather than an outright sale.

Fish and chips

America hit South Korea's Hynix with a 45% **tariff** on its memory chips in retaliation for what America claims are big government subsidies to the troubled chipmaker that violate WTO rules. Tariffs of up to 64% were also slapped on Vietnamese catfish allegedly dumped on the American market. Chinese TV makers were threatened with an 84% tariff and Malaysian firms face tariffs of 46% if they are deemed guilty of dumping their products.

Richard Li, a former whizz-kid Hong Kong dealmaker and son of Hong Kong's richest man, stepped down

as chief executive of **PCCW**. The phone and internet firm rode the boom and bust of the technology bubble, but has since languished. Mr Li will remain as chairman.

Free to run the ECB

Jean-Claude Trichet looked certain to succeed Wim Duisenberg as president of the European Central Bank after his acquittal by a French court on fraud charges related to the Crédit Lyonnais scandal in the early 1990s.

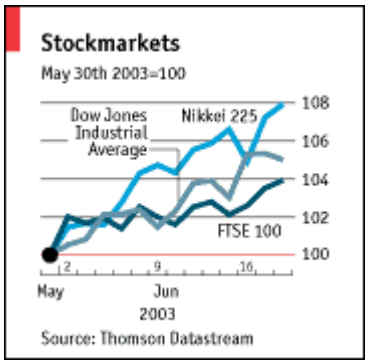
See article: Trichet in the clear

Morgan Stanley reported a surprising fall in profits, down by 25% in the second quarter compared with a year ago to $599m, after a big write-off at the bank's aircraft-leasing business. **Bear Stearns** announced that profits were down by 18% for the quarter to $280m, but still beat Wall Street's expectations as bond-trading boomed.

UBS is to shed 500 investment bankers, some 3% of the total. The news came a week after the Swiss bank announced that it was trimming the name of its investment-banking unit—from UBS Warburg to UBS. The City braced itself for further job cuts.

Yuan for recovery

The commitment of John Snow, America's treasury secretary, to a "strong dollar" may be questionable, but his hope for a "**strong yuan**" is not. China's currency shot up on forward markets after he commented approvingly that the country had hinted at "more flexibility" over its official exchange rate. The gains were tempered when China denied that its currency would float any time soon.



Stockmarkets around the world made further gains. The Dow Jones Industrial Average rose by 2.2% in a day and reached its highest level since last July. Japan's Nikkei 225 hit a six-month high.

See article: Optimism in the markets

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India v China

A tiger, falling behind a dragon

Jun 19th 2003
From The Economist print edition

India is weaker thanks not to democracy, but to bureaucracy, intolerance and pointless rivalries

INDIA'S prime minister, Atal Behari Vajpayee, is something of a poet as well as a devout Hindu. His spiritual and aesthetic reserves will be tested to the full this weekend, as he arrives on a state visit to China. Over the following five days, he will be confronted with the full extent of India's failure to keep pace with its neighbour. Twenty-five years ago, living standards in the two dirt-poor Asian giants were similar, but now the average Chinese is nearly twice as well-off as his Indian neighbour. This huge discrepancy manifests itself at every level: from the glittering new airports and business centres of Beijing and Shanghai, which Mr Vajpayee will have sadly to compare with the outmoded squalor of Delhi and Mumbai, to the rate of adult illiteracy, which is almost three times higher in India than in China, to the awful fact that twice as many Indian as Chinese babies die in infancy.

The world's leaders know it: no American president can afford to stay away from the Middle Kingdom for long, but in 2000, Bill Clinton became the first occupant of the White House to go to India for 22 years, and President Bush has not yet set a date for following him. Pakistan, not India, is back in favour as the partner of choice in South Asia, a tilt so profound as to explain, many insiders believe, the recent early resignation of the American ambassador to Delhi. For Mr Vajpayee, who once said that his life's ambition was to see India take its place as a great nation, it must be very dispiriting.

Discuss this yawning gulf with any Chinese official, and the chances are that he or she will blame it on India's democracy. The chaos and compromise of the legislative process, one will generally hear, militates against the possibility of firm government. Had he depended on a parliamentary majority, or re-election, goes the argument, Deng Xiaoping could never have launched China's economic reforms as he did in 1978, with the consequent sharp increase in unemployment, as rusty old state-owned businesses suddenly faced competition from sprightlier private ones. Even in India, one sometimes hears defeatist talk of this kind (see article).

Don't blame democracy

Fortunately for democrats, it is not hard to supply a rebuttal. Democracies are not all of a piece, and there are many ways in which India is not a very good one. Corruption in the political and bureaucratic system is endemic. The rule of law is constrained by a creaking and overwhelmed judicial system. The caste system prevents hundreds of millions of Indians from having their needs and demands heard and acted upon. Moreover, until very recently, India didn't even look much like a true democracy at all: it more closely resembled a one-party state, run by the Congress party, whose socialist ideology, laid down by Jawarharlal Nehru, was deeply hostile to free enterprise and interfered in the economic life of the nation to an extent that was almost as destructive as Mao's communism.

None of the weaknesses in India's version of democracy is inherent in the notion of democracy itself, and all of them are perfectly fixable without having to throw the idea of democracy overboard. Besides, it would be unwise to be too starry-eyed about China's economy. India remains streets ahead of China in the lucrative area of software and other information-based services, where the free flow of knowledge

matters more, and where the Chinese government's control-freakery is much more of a handicap. Nor, by focusing only on economics, can it be right to ignore the huge disadvantages the Chinese endure by living under totalitarian rule. Among these should be counted the fact that China's political structure is inherently inflexible, and is constantly at risk of falling apart in any number of ways, some of them—remember Tiananmen Square in 1989—quite bloody. Democracies tend to be more resilient, more able to absorb dissent and conflict.

But if democracy or the lack of it is not the root cause of India's divergence from China, what is? Mostly, as already noted, that India simply started the process of opening up later. Indians used to joke that the British raj had given way to the licence raj: even the smallest investment decision by a private firm required government approval, very often all the way from Delhi. The work of dismantling this bureaucratic behemoth started only in 1991 under a reformist finance minister, Manmohan Singh—there was no reason why it could not have started earlier, bar the absence of sufficiently intelligent or brave leadership—and pockets of resistance remain. One particular anomaly is the system that reserves extensive sectors of the economy for small businesses. China's reforms have had 12 years longer to deal with such obstacles.

There are other reasons, too. In the Bharatiya Janata Party (BJP), India is, for the moment, saddled with an irresponsible government that is better at pandering to religious zealotry than pressing for economic reform, and which is led by people who are hardly in their first flush of enthusiastic youth (Mr Vajpayee will be 80 next year, when he fully intends to fight a general election: his finance minister, who ought to be galvanising the reform process, is 65). The Congress party is little better: it is led by the ineffectual Sonia Gandhi, who has proved incapable of making the case for continuing the reforms her own party started. A well-led Congress government would potentially enjoy all sorts of advantages that the BJP lacks. Because the BJP is primarily a northern-Indian phenomenon, it is forced to rely on an unwieldy coalition, which currently consists of 20-odd parties, to remain in power. That is hardly a recipe for effective leadership.

Beyond this is India's permanent state of near-war, and nuclear war at that, with its neighbour Pakistan, over its benighted possession, Kashmir. India's uneasy relations with China, which prompt it to invest wastefully in nuclear weapons and long-range missiles, do not help either. If Mr Vajpayee is serious about India taking its place, alongside China, as a great nation, he could start with a few bold gestures over Kashmir. It would be greatly to China's advantage to help, by pushing Pakistan, perhaps the closest of all its foreign friends, to make a genuine effort to halt violence there. A billion Indians, as well as the wider region, would be the winners.

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Europe's proposed constitution

Where to file it

Jun 19th 2003
From The Economist print edition

Europe's constitutional convention has produced a lamentable piece of work

Get article background

WHEN it first began to be argued that the European Union needed a proper constitution, *The Economist* warmly endorsed the idea. The Union, we agreed, needed a single text to codify the overlapping and impenetrable treaties that had gone before. More than this, we urged, Europe needed a clear statement of what the Union was, and what it intended to be—in effect, a lasting constitutional settlement. Perpetual constitutional revolution, the prevailing mode of European integration thus far, is no longer serving Europe's citizens well. It sows confusion and discontent, and it distances people from government. Bring on the constitutional convention, we said, to solve these problems and more.

There was always a risk that the convention would not design a particularly good constitution. What was harder to imagine was that the convention would produce a text which would worsen the very problems it had been instructed to address. This is what it has somehow contrived to do. In many ways the draft constitution, more than 200 pages long, makes the Union's constitutional architecture harder to understand than it was before. That is an incredible feat. Worse, it weaves perpetual constitutional revolution more securely into the Union's legal fabric. The draft, admittedly, gets one or two things right: it is not entirely devoid of sense (see article). But for the most part the text is sound on points that are relatively unimportant. Everything that is crucial it gets wrong.

Not exactly Philadelphia

The most important task for any constitution is to assign powers while ensuring that the officers and institutions exercising those powers are held in check, accountable to citizens. This central preoccupation is plain in the constitution of the United States. Europe's constitutional convention has barely troubled itself with the question. The assignment of powers, or “competences” in Euro-speak, is so vague in this draft constitution that on issue after issue the conventioneers themselves cannot explain what their text means. At the same time the complementary principle of subsidiarity—the idea that political decisions should be taken, so far as possible, at levels of government that are close to the citizens—has been drained of any power it might have had.

The Laeken declaration of December 2001, which set up the convention, put the questions of powers and subsidiarity high on the panel's agenda. It even trailed the possibility that some powers might be repatriated from the Union to its member states. Of this there is no trace in the convention's text. Instead, the Union is given vaguely specified “shared competence” in wide areas of policy. Elsewhere, Article 9 includes a statement of the subsidiarity principle, but this is drafted in such a way as to make it subordinate to the Union's “objectives”. Since the Union's objectives, according to this constitution, include various kinds of “cohesion” (not to mention “sustainable development” and lots of other good things), the idea of subsidiarity has no purchase. Union-level policies will always be better at promoting cohesion than national policies. The point, you might say, is not that the constitution fails to address the balance between cohesion and subsidiarity. Implicitly, it does address it: cohesion is an explicit aim of the Union and subsidiarity is rendered null.

The constitution also entrenches as law the Union's bizarre Charter of Fundamental Rights (according to which, for instance, free job-placement help is a fundamental right). Largely at Britain's insistence, the

charter's remit is supposedly confined to Union law and institutions, implying that what is a fundamental right for an employee of the Union is no right of any kind for somebody not in that fortunate position. This drafting, together with a supplementary interpretive text, is intended by Britain to check the expansion of Union powers—and is confidently described by one British minister as a “Berlin Wall” to protect national sovereignty. He is right: it would be as solid and permanent as that. What will the European Court of Justice make of a constitution that recognises and affirms certain fundamental rights, and then denies those rights to most of the Union's citizens? Given the opportunity, and there will be plenty, it will extend access to those rights where it can. Under this constitution, it would be correct to do so.

The draft is riddled with botched compromises, anomalies and absurdities of this sort. All will demand further constitutional innovation. It is true that many of the convention's “federalists” see their cause, that of speeding the creation of a fully fledged United States of Europe, set back by this text: they regret the failure to give the Union its own tax-raising powers, for instance, or to make faster and more certain progress towards a common foreign policy directed by majority vote. But the telling point is that the constitution does not rule such developments out, as it should have done: it hints at them for the future, it anticipates and arguably even requires them, because changes of this kind will seem the easiest and most natural way to resolve the evasions and contradictions that have been sprayed through the text.

In short, the convention did not even try to write a lasting constitutional settlement. It has written the opposite: in effect, a blueprint for accelerated instability. This instability would undeniably move Europe in the direction which most of the convention delegates apparently desire, with continuing accretion of executive, legislative and judicial power at the centre. The trouble is, there is no clear sign that this is the direction most of Europe's citizens desire, and there is plenty of evidence to the contrary.

Dispose of waste responsibly

An intergovernmental conference will now take up the proposal. The Union's governments should take it up for exactly as long as it takes to dump it in the nearest bin. Unfortunately, they will doubtless lack the wit or nerve for that, preferring instead to tinker with the document they have been given. In that case, one must hope that they keep on tinkering until little of the original remains. The European Union still needs a constitution. This lamentable effort is assuredly not it.

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Asian corporate governance

Corporate, maybe: but governance?

Jun 19th 2003
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Time for Asia's companies to move out of the shadows

THE débacles at Enron, WorldCom, Ahold and Vivendi have left western pontificators on corporate governance a bit short of moral firepower. Yet it is important to keep a sense of proportion. Fraud, corruption, cartels, collusion and the unfair treatment of minorities are rare in America and Europe. But they are all too common in East Asia and other emerging markets. The question for such places is: should corporate governance be modelled precisely on the richer countries—or can they develop versions of their own?

Since the financial collapse of 1997, several East Asian countries have overhauled their corporate governance, putting new powers in the hands of the courts and setting up new regulators. In some, such as Malaysia, this has worked. But in others, new institutions co-exist with the same bad old attitudes. Indonesia has dawdled for two years over restructuring the $13.9 billion debt owed by Asia Pulp & Paper, the biggest defaulter in emerging markets; the company has favoured domestic bondholders over foreign investors. In Thailand, foreign creditors have been shabbily treated, most notably in the case of Thai Petrochemical Industries. A new bankruptcy court has, extraordinarily, given the finance ministry power over this bust conglomerate's assets, which could mean that partial control is returned to Prachai Leophairatana, the well-connected tycoon who drove it into bankruptcy in the first place (see article). And in South Korea SK Corp, the third-biggest *chaebol*, has rescued a tottering sister company, to the fury of its foreign investors.

Asia's traditional corporate model sits uneasily with modern practice. Families are a key source of capital, contacts and customers. That is logical enough when uncertainties and risks are high and capital markets underdeveloped. Interlocking networks of subsidiaries and sister companies can allow funds to flow quickly into promising new businesses. But such networks are opaque, and discriminate against outside investors. Moreover, the ambiguous role of the state, as not only a regulator but often a shareholder in Asian companies, creates conflicts of interest and gives too much power to politicians.

Several forces are pushing for improvement. East Asian families are smaller, so tycoons more often have to find outside managers. The modern heir may have not only an MBA from Harvard Business School but also western notions of how to run a business. It is becoming clearer that opacity costs money, as untrusting foreign investors demand bigger returns. And all Asian countries crave the cloak of international respectability, from membership of the OECD club to the kudos of hosting the Olympic Games or World Cup.

Good governance is hard to achieve so long as bankruptcy courts and judges are inexperienced or easily pressured. In a new white paper, the OECD suggests that Asian countries should look for ways to protect minority shareholders that can be triggered by shareholders themselves, without waiting for the courts or regulators to intervene. These might include, for instance, allowing minority shareholders who have voted unsuccessfully against a large transaction to insist that the company buy out their shares at the value prevailing before the transaction took place.

East Asian governments should create rules that are easy to enforce, even if they diverge from practice in Delaware or London. Enthusiasm for better governance and shareholder rights matters more than the precise shape of institutions.

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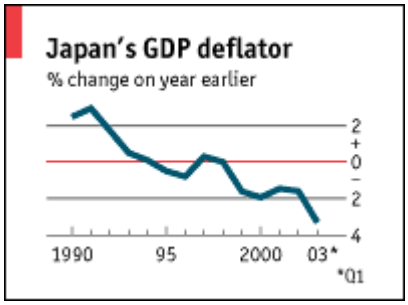
Japan's economy

When virtue is a vice

Jun 19th 2003
From The Economist print edition

Central bank independence is not always used wisely



MOST foreign observers seem to have lost interest in Japan. The economy's lousy performance since the bubble burst in 1990 is an old story, and all efforts to revive it seem to come to naught. But the world cannot afford to write off Japan. It still has the second-biggest economy, and with today's worries over sluggish growth in America and recession in Germany, it becomes more urgent than ever that Japan pulls its weight in getting the world economy moving again. Japan's experience now looks disturbingly relevant to Europe and America, given the risk that deflation may spread.

The first myth that needs debunking is that Japan remains mired in deep recession. In the year to the first quarter Japan's real GDP grew by 2.6%, the fastest pace (equal to Canada) of any G7 economy and well ahead of America and Europe. The problem is that nominal GDP has continued to shrink, thanks to deflation. Japan's GDP deflator fell by 3.3% from a year ago, the biggest decline in any rich country for over 50 years. Falling prices are particularly troublesome when Japan's debts loom dangerously large. To earn decent profits firms have to keep cutting costs, so contributing to further price falls. Japan's recovery will falter unless it can climb out of its deflation.

It is easy to blame this mess on the incompetence of the Bank of Japan. The central bank has consistently eased policy too little, too late. It has pumped out lots of money over the past two years, but has simultaneously kept saying that it won't work. Since monetary policy affects inflation partly through expectations, this has turned into a self-fulfilling prophecy. Japan also demonstrates how monetary policy can be less effective in a post-bubble economy—and not just because its banks are broke. There is no guarantee that increased liquidity will boost demand, and hence prices, when an economy has massive excess capacity and debt. Firms are more likely to repay their debts than spend. This is why America's Fed should not be complacent about the risk of deflation emerging at home.

Co-ordinate, co-ordinate

If monetary policy lacks sufficient power on its own to end deflation, the solution is not to give up but to try a co-ordinated monetary and fiscal stimulus. The central bank should finance tax cuts directly to lift demand (see article). Ideally this should be combined with a clean-up of the banks. But it is foolish for the Bank of Japan to say it cannot move until a clean-up has happened. That way lies perpetual stalemate.

One obstacle to fiscal and monetary co-operation is the Bank of Japan's independence, which it guards jealously. But the bank mistakenly views independence as an end in itself, rather than as a means to price stability. The role of an independent central bank needs to be different at times of inflation and deflation. When inflation abounds, the job is to say no to the government, to prevent excessive monetisation of public borrowing. But when an economy is gripped by deflation, excessive monetary creation is good, not bad. In a world of “liquidity traps”, the case for greater co-ordination between monetary and fiscal policy becomes stronger still.

Sharing a car with your neighbours during a fuel shortage gives you more freedom to travel, but does not tie you together for life. Likewise, temporary co-operation between the Bank of Japan and the Ministry of Finance would not be inconsistent with long-term central bank independence.

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Britain's cabinet reshuffle

Blair's own goal

Jun 19th 2003
From The Economist print edition

Combining constitutional reform and a cabinet reshuffle has raised questions about Tony Blair

Bandphoto

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IT REQUIRES a rare degree of ineptitude to announce widely-supported reforms in a way that outrages everyone. And yet Tony Blair has pulled off this feat. The cabinet reshuffle which he announced on June 12th was cack-handed by any measure. But for the ever energetic Mr Blair this, apparently, was not enough. Along with the cabinet changes, late on a Thursday afternoon and without any warning, Mr Blair decided to rearrange the British constitution. The howls of protest about this will reverberate for months (see article).

The irony is that the centrepiece of the changes, the abolition of the Lord Chancellor's post, would have been broadly welcomed if handled more skilfully. The post has become an embarrassing anachronism. Britain has been the only democracy where the same person was a member of all three branches of government. The Lord Chancellor has been the head of the judiciary, the nominal head of the House of Lords and a senior member of the cabinet.

This tripartite role was becoming untenable as British judges, like those elsewhere, were being asked more frequently to rule on contentious public issues and, from time to time, to restrain the government from overreaching its powers. That is why another change announced by Mr Blair, the removal of the Law Lords from the House of Lords to a new Supreme Court, also makes sense. The nation's most senior judges should not be involved in making laws which they may later have to interpret. In the future, Britain will need a judiciary independent of the legislature as well as the executive.

So why all the fuss? Mr Blair announced these and other changes abruptly, without consulting Britain's other political parties or, it seems, anyone outside his inner circle. The changes may be desirable, but they are also wrenching and unprecedented. The Lord Chancellorship, for example, is, in one form or another, almost 1,000 years old.

Mr Blair's arrogant behaviour is worrying not merely as an example of poor political etiquette. It also raises serious questions about both his competence and his intentions. There has been plenty of time to mull over these changes—the need for them is largely the result of the government's own incorporation of the European Convention on Human Rights into British law in 1998, and a raft of changes in the European Union that have increased the domestic impact of European law. Both have forced senior judges into a more prominent role. The need to overhaul Britain's legal machinery was clear years ago. The fact that Mr Blair has bungled the task, even while leaving the most contentious details vague, does not instil much confidence that he will handle with skill even bigger constitutional changes currently under way within the EU.

The details matter

One of the thorniest issues left too vague is how judges will be chosen. Conceding that secret “soundings” among the legal profession will no longer be feasible, the government says that it will set up an independent body to make judicial appointments. But who will appoint this body? No one in Britain wants to copy America's sometimes bitter political combat over judicial appointments. Fortunately, this is not inevitable. A commission of legal experts and lay members, like that in Scotland and many other

countries, perhaps reporting to a parliamentary committee, might work best. Whatever the final details, a system open to public scrutiny, and outside the complete control of the government, is essential.

This issue will also be crucial because the government's intentions here are suspect. When it faced a similar threat to its power earlier this year, it abandoned reform of the House of Lords. David Blunkett, the home secretary, is in the middle of an ugly spat with Britain's current judges, who have thwarted him on asylum policy and oppose his ideas on criminal sentencing and other issues. Is the government now intent on making Britain's judiciary truly independent, or on nobbling it? That remains an open and disturbing question.

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Letters

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Hot property

SIR – Your property survey asserts that a property bubble akin to the stockmarket bubble has emerged (May 31st). However, in Britain the acquisition of housing for investment purposes accounts for a tiny fraction of the total market. As a consequence, the housing market reacts differently to the stockmarket: initial slowdowns are unlikely to be followed by panic selling.

Double-digit house-price inflation is unsustainable over the long term with near-zero inflation. But this does not make it a given that prices will fall; growth may simply slow down. The factors that caused prices to fall in past cycles are not present now, nor are there any other obvious triggers on the horizon. The slowdown in house-price growth looks more like a moderate self-correction rather than the precursor to widespread price falls. Generally speaking, serious price falls imply forced sales and, unless unemployment worsens significantly or interest rates rise dramatically, this looks unlikely.

Michael Coogan
Director general
Council of Mortgage Lenders
London

SIR – Given the return in London of 136% between 1995 and 2002, the after-tax return with an 85% mortgage would be a marvellous 1,400%. Stump up £15,000 to buy a house for £100,000, count the mortgage as rent and sell for £236,000, take off transaction costs and the net profit is around £210,000. Sitting through a 30% fall would mean pocketing a mere £142,000; a return of over 940%. Now may not be the moment for first-time buyers but for most homeowners, given the alternatives, owning where you live is a better pension scheme than letting a stockbroker “wisely invest it till it's all gone”.

Tim Wills
London

SIR – To the one-in-eight dwellings bought for investment in London you could add those sole owner-occupiers buying to secure their own housing-equity retirement pot who otherwise might have happily lived with others. And do not forget the larger homes bought by those upgrading their investment. It is worth noting that these two sources of investment demand are less likely to displace other demand than buy-to-let. If I were not a tenant I would be even gloomier than you.

Graham Siddorn
London

SIR – In the buy-to-let market the investors best insulated against a decline in both the rental and asset value of their properties are the most diversified. However, many of these investors would have had the temptation to write off a capital loss in their share portfolios against the capital gain on their buy-to-let properties—potentially eliminating their stockmarket losses in the process. Many of the most financially robust investors in this market have significantly decreased their holdings in this sector since the stockmarket crash. This leaves a far more vulnerable (and probably younger) undiversified class of investors in their place. I fear that this will increase both the scope and extent of the crash when it comes.

Tom Hughes

London

SIR – An important element regarding the demand for commercial property is the effect on business of the introduction of IT. For the past ten years businesses have been focused on the reduction of secondary business processes like administering expense claims and assets. Success has prompted a reduction of staff in primary processes such as customer care, billing and planning. These new office arrangements have reduced the need for floor space, as indeed have the improved opportunities for working from home afforded by better technology.

John van Meurs
Groningen, Netherlands

On the ball

SIR – You recommend correcting baseball's "anti-competitive" practices by removing its antitrust exemption (Lexington, May 31st). What about the proven solution of a salary cap? It has allowed the NFL and NBA to increase team revenues and the interest of fans while also protecting competitive balance. Best of all, there is no philosophically untidy revenue sharing, so the rich teams may remain safely rich. Baseball has many problems: free-market fussing should not be made one of them.

Dave Gunton
New York

SIR – Major League Baseball could benefit from a feature of English football leagues: relegation, with the subsequent loss of revenue shares and stadium deals. This would give owners of the lowliest teams a powerful incentive to spend the money they get from revenue sharing on improving their clubs.

Samuel Sheagren
Carlsbad, California

Fujimori's endorsement

SIR – You suggest that I and my supporters would like to see President Alejandro Toledo overthrown ("Peru's state of emergency", June 7th). This is not the case. In fact, I hope to see him carry on, however difficult the circumstances, and complete his mandate by serving as president until 2006.

The Peruvian people, I venture to say, want to see the economic and social-policy achievements of my ten years in office (1990-2000) preserved, and, if possible, enhanced, and do not want to see our country descend into chaos. This happened in the 1980s under my predecessor, Alan Garcia, and could happen again should Mr Toledo fall suddenly from power. In my time as president, the main policy achievement in the early years was the eradication of terrorism. The last thing Peruvians want to see is a revival of terrorism under conditions of extreme political weakness and instability.

Alberto Fujimori
Tokyo

Home-grown hazards

SIR – The euro and the European Union are not important contributors to Germany's economic difficulties: unlike its rigid labour market, profligate social-security system, legacy of a botched unification and relatively unsophisticated financial sector (Charlemagne, Jun 7th). Germany's contribution to the EU is dwarfed by the sums wasted on subsidies and tax breaks promoting unproductive ends. There is no need for Germany to breach the deficit-spending limit to design a growth-friendly fiscal system.

If Germany had entered monetary union with a dangerously high exchange rate, the first sector to suffer would have been exports. Instead, its exports are about the only thing to have held up. Monetary union is not the cause of Germany's ills, but by exacerbating the symptoms it is Germany's best protection against its politicians ignoring the problem still longer and sending the country the way of Britain in the 1960s and 1970s.

Hans Geberbauer

London

Outclassed

SIR – If being middle class means having a university professor as a father, graduating from Harvard, sailing the family's 76-foot schooner to Cuba and having a name like Sloan, then we and other average middle-class Americans must be living on another planet (Obituary, June 7th).

Sharon Lee
Barry Edmonston
Portland, Oregon

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Europe's constitution

Your darkest fears addressed, your hardest questions answered

Jun 19th 2003 | BRUSSELS
From The Economist print edition

This weekend, in Greece, the 15 leaders of the countries of the European Union will be presented with a draft constitution for the EU. The document has been drawn up over the past 18 months by a convention presided over by Valéry Giscard d'Estaing, a former president of France. It has caused controversy, confusion, hope, outrage and boredom. This article is an effort to clear up the confusion

Get article background

What is happening and why?

Various explanations are offered for exactly why the EU needs a constitution now. Some argue that with the Union due to swell from 15 to 25 countries next year, a radical overhaul is required. Others point out that successive treaties between the EU countries have created a mass of overlapping legal texts which need to be consolidated into a single document. Those who want an end to the growth of the EU's powers saw the creation of a constitution as a way to draw a final line. But the federalists, who want those powers to expand, also pushed for a convention, as a further step towards the “ever closer union” promised in the 1957 Treaty of Rome, which started the process of integration.

Many federalists seem pleased with the 200-pages-plus constitution that has resulted. Some are calling it the biggest leap forward for the EU since the Treaty of Rome. But the whole thing could still be revised by the national governments of the EU, meeting in an inter-governmental conference (IGC) beginning in October.

Is this the creation of a European state?

Tricky. Eurosceptics, who like to tick off all the different ways in which the EU is acquiring the characteristics of a state, certainly have some new things to add to their list. Even before the convention, the EU had a flag, an anthem, a currency, a central bank, a supreme court, a parliament, a president (of the European Commission), a *euro*100 billion ($117 billion) budget and a nascent military force. The convention has now proposed that it should have a constitution, a formal legal personality, a bill of rights (the Charter of Fundamental Rights), new powers over criminal law and immigration, a foreign minister and another president (of the European Council). There is also quite a big expansion of the EU's power to make legislation by majority vote, and therefore further erosion of national sovereignty.

On the other hand, in some respects the constitution is creating the form of state institutions without

providing the substance. Thus the so-called foreign minister has no power to make policy over the heads of national governments, who retain vetoes over the making of EU foreign policy and control of their own armed forces. The EU will not be able to raise taxes nor, probably, harmonise them either. Thus two of the central features of a state—the power to raise taxes and to go to war—remain outside the grip of "Brussels".

Isn't the very creation of a constitution massively significant in itself?

Arguably. In the words of one of the convention's most senior members, "What we are doing is moving off a treaty track and on to a constitutional track, and we will now roll forward on that track." But even this senior figure admits to doubts, because in fact this is a "constitutional treaty", which, like any other international treaty, has to be ratified by every national government. And the federalists seem to have lost a crucial battle on future constitutional changes. They wanted all such changes to be made by majority if four-fifths of states agreed. But this move was blocked. All future constitutional changes will still have to be made by unanimous agreement of all the countries of the EU, although they would no longer have to be ratified by national parliaments. So this still looks more like a treaty between states than a constitution for a single state.

Which policies will be most affected?

Everybody agrees on this: justice and home affairs. At present, all attempts at the integration of criminal and immigration law can be blocked by any single country. Under the constitution, EU policy on refugees and asylum—and therefore some aspects of immigration policy—will be decided by majority vote. Countries which currently take in a lot of refugees, in particular Britain, are keen on this, since they see it as a way of spreading the burden more evenly around the Union.

But the EU would also extend its reach deep into criminal law. The constitution provides for the harmonisation of criminal law and sentencing for certain serious crimes with cross-border implications, such as corruption and drug-trafficking. The EU would also establish minimum rules on matters of judicial procedure, such as the admissibility of evidence, the rights of the accused and so forth. All this would be done by majority vote. The Dutch, British and Irish are very wary of this, since they fear that the end-point would be a common EU criminal-law system. There is also a proposal to create a European Public Prosecutor who could have crimes against European law tried in national courts. However, the prosecutor would be set up only if there was unanimous agreement to proceed, which seems unlikely. A separate proposal suggests that Eurojust, which co-ordinates national prosecution services and already exists, might also bring prosecutions.

So what is the situation on tax?

Federalists badly wanted to make progress here, but there are only hints of it. Corporation taxes could eventually be harmonised by majority vote, but only if countries first agreed unanimously to take such a vote. And the EU could possibly move, by unanimity, to give itself its "own resources"—ie, tax-raising powers. Mr Giscard d'Estaing probably felt this was the least he could give the conventioneers, but his people expect opposition from the British, Irish, Spanish and Poles to eliminate any hint of majority voting on tax during the negotiations that begin in October.

And on foreign policy and defence?

Confusion reigns on foreign policy. Asked recently if the constitution lets foreign-policy decisions be made by unanimity or majority vote, the convention's spokesman refused to answer and invited journalists to work it out themselves. It seems to be unanimity. The European Council, which groups together heads of government, could go to a majority vote on a foreign-policy proposition put to it by a newly created foreign minister, but only if it had unanimously asked the foreign minister to make such a proposition. Any country that thought it might be out-voted on a tricky topic, such as Iraq, would presumably refuse to sanction such a request.

The position is less ambiguous over defence. Everybody agrees that no country can be compelled to go to war by a majority vote of EU members. However, there is a suggestion that the EU should aim for "the progressive framing of a common Union defence policy." This alarms countries with a tradition of neutrality, such as Ireland and Austria, as well as those who believe NATO could be undermined. Another provision would set up a European Armaments Agency, to encourage (though this is not said explicitly) EU countries to buy their weapons in Europe rather than from America.

Any move to economic government?

Not much. There is lots of griping on the convention floor that monetary union has not been followed by genuine economic union—whether through tax harmonisation or tougher fiscal rules or tax-raising powers. Some also wanted to create a European finance minister, like the proposed European foreign minister. None of this has happened. But the Euro-group—the currently informal clutch of countries that use the single currency—will take on a formal legal identity and exclude countries who keep their currencies from decisions on, for example, enforcing fiscal rules. The EU budget will still have to be decided by unanimity, which should be fun in 2006.

What about this single legal personality business*?*

Both federalists and Eurosceptics attach a lot of significance to this. Hitherto, the EU did not formally exist. Now it will, and will be able to sign treaties in its own right that bind all members. Some hope that it will ultimately be able to take a seat on the UN Security Council, replacing Britain and France. But it is difficult (to put it mildly) to see the British or French agreeing to this. The EU already had implicit legal personality in international trade negotiations, where it has long negotiated as a block. Having a formal legal personality also implies that the EU can now claim to have powers independent of those granted by sovereign states. However, after some determined British re-working of the first draft, it is now very much underlined that all EU powers are granted to it by the member countries, rather than vice versa.

What about the Charter of Fundamental Rights?

Federalists are very proud of the incorporation of a bill of rights into European law. As one senior figure in the convention argues, “It was the Bill of Rights that created American identity. They were Americans and so they had rights. It will be the same with Europeans.” The British, who had previously argued that the charter (negotiated at a previous convention) should have no legal force, gave in very early on this one. The charter will now be part two of the constitution. Simply agreeing to a bill of rights is a big legal change in countries such as Britain and Ireland, where rights have been established by precedent and case law. And more practical fears are surfacing, too. The charter mentions wide-sounding social rights—the right to strike, the right to a job, the right of workers to be informed and consulted, even “the right to a free [job] placement service”. The British feared that these social rights would be a backdoor way of re-regulating their labour market. The Irish, and some central European countries, also worry about that.

However, the British, Irish and others like to think they have safeguarded their position in two ways. First, the charter makes clear that its provisions apply only to European law, not to domestic law. But since European law is constantly widening its scope, and since social laws are made by majority vote, this still leaves a chink in the armour. So the British, backed by the Irish and Dutch, have worked in a change to the charter's preamble. This says that the European Court must pay “due regard” to an interpretive text, underlining that the charter creates no new rights. However, many lawyers doubt that a reference as weak as that will have any impact on the court.

And the supremacy of EU law?

Article 10 says “The constitution and law adopted by the Union's institutions shall have primacy over the law of the Member States.” Some maintain that this has been the case ever since the Treaty of Rome;

indeed, if it were not so, the internal market would be unenforceable. But others argue that the supremacy of EU law has been established and accepted only through case law, and that it represents a qualitative change to enshrine the idea as a constitutional principle.

Are any powers repatriated to the nation-states?

No. The Laeken declaration of December 2001, which set up the convention, raised the possibility that it might decide to repatriate certain powers. This has not happened. However, the doctrine of "subsidiarity", which is meant to be the safeguard against the relentless expansion of European Union power, is included. Article 9.3 says "the Union shall act only and in so far as the objectives of the intended action cannot be sufficiently achieved by the Member States" and can "be better achieved at the Union level".

A separate protocol on subsidiarity states that the commission has to show how all its proposals are consistent with it and must substantiate this with "qualitative and wherever possible quantitative indicators". National parliaments then have six weeks in which to object to any proposal on subsidiarity grounds. If one-third of national parliaments object, the commission is forced to review—but not necessarily withdraw or even amend—its proposals. Parliaments or member states can, however, appeal to the Court of Justice if they think the subsidiarity principle has been breached.

And what about this idea of a president for Europe?

This is a fine example of the difference between what insiders think significant and what outsiders do. Within Britain, the creation of a president of the European Council who—along with the foreign minister—will represent the EU on the world stage is often seen as a classic federalising move. The British government, however, fought fiercely for it and believes it to be anti-federal, since the European Council—which is made up of heads of national governments and tends to act by consensus—is seen as sympathetic to nation-states.

Many big countries—Britain, France, Spain, Italy—promoted the idea of a permanent president of the council, ostensibly because the current system of rotating presidencies is inefficient. Smaller countries, however, always suspected them of wanting to use the new post to turn the European Commission into a civil service and to run the EU as a *directoire* of big governments. Reluctantly, the small countries seem to have accepted the idea of a president of the council. But they have managed to crimp efforts to give him or her a big staff and have defined the job fairly tightly. Federalists are pleased that they have preserved the possibility of eventually merging the presidencies of the commission and the council, so creating a single president of Europe.

And the rest of the institutional stuff?

Probably the biggest single issue for the small countries was that every country should retain the right to have its own commissioner. The bigs generally did not want this, since they regarded it as a recipe for a huge and unwieldy commission. They also think the principle of one-state, one-commissioner discriminates against them. A botched compromise has emerged. There will be 15 commissioners with a vote and proper jobs and 15 non-voting commissioners with an office, a staff, a large salary and not much else. Countries will take it in turns, in strict rotation, to have one of the proper jobs.

Meanwhile, the real winner is the European Parliament. Even though senior members of the convention harbour grave doubts about its ability to command respect and attention in Europe, it nonetheless greatly expands its powers, gaining the right to get involved in many legislative procedures—justice, agriculture, the EU budget—from which it used to be excluded.

The final big issue was whether to balance the insane voting weights agreed upon at Nice in 2000—whereby, for example, Germany gets 29 votes when laws are decided (as do Britain, France and Italy) and Spain and Poland, each with half the population of Germany, get 27 votes. Unsurprisingly, the Spaniards are not keen to change this. The compromise is that the EU will move, by 2009 or 2012, to a system whereby a majority will be constituted by a simple majority of states equalling at least 60% of the population of the EU. This would pump up German power within the EU and deflate the power of small and medium-sized countries. The Spaniards, however, have made it clear that they will try to get this changed.

How final is this document?

When Peter Hain, the British representative, said that the constitution was a good “starting point” for governments to negotiate from, he was hissed. Most conventioneers want governments to accept it with a minimum of changes. That is unlikely. The French, the Spaniards and the British have all made it clear that they want to unpick things. The IGC will probably run for six months.

What happens about ratification and referendums?

For the constitution to come into force, all countries will have to ratify it. But many will have referendums. The Irish and Danes are constitutionally obliged to; the French, Spaniards and Portuguese have all said they may have plebiscites, as have several of the central European countries that will join the Union in 2004.

The likelihood is that somebody will say no. And as a senior member of the convention puts it, “If 22 countries say yes and three say no, then we have a problem. Legally we cannot proceed; politically we cannot stop.” If only a couple of countries fail to ratify, the others might simply agree to dissolve the old treaties and form a new Union under the new constitution, in effect forcing the malefactors out of the EU. This would probably be illegal, but might be unstoppable anyway. If a larger group refused to sign up to the constitution, the document might be stillborn. Alternatively, the EU could divide into two groups, those who have ratified and those who have refused.

Is there any way out?

As it happens, there is. The constitution includes the first formal statement that a country can leave the EU. Two years' notice is all that is required.

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Gray Davis

Total Recall

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From The Economist print edition

AP

A quarter-century after Proposition 13, California is on the verge of taking another step away from representative democracy

AT SUPERMARKETS and malls all over the state, volunteers sit at tables urging shoppers to sign their petition. Equal numbers of rival volunteers urge shoppers not to sign. It is retail politics at its purest. “There's almost a revolution going on here,” says one signature-gatherer. This is California, home of political apathy and of campaign-by-television. The future of the governor—possibly even the government—may be at stake.

For Gray Davis, the revolution has come from nowhere. In January, the newly re-elected governor dominated state politics. His Democrats had made a clean sweep of elected statewide offices. If there were clouds on his horizon, such as the surprisingly modest margin of victory, they were the size of a man's hand.

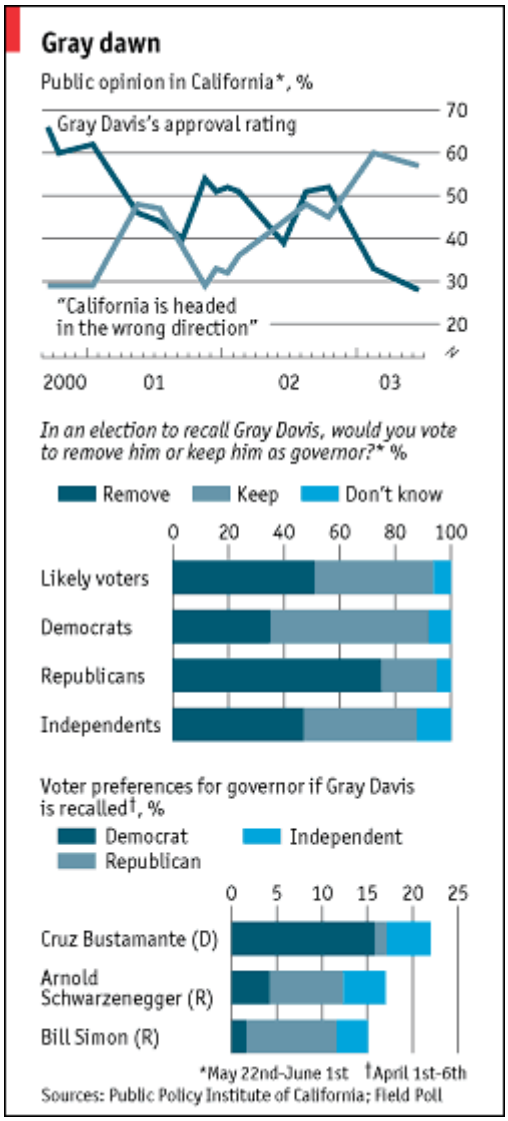
Now they threaten to overwhelm him. In California, you can put a motion on the ballot to throw out (“recall”) an elected official if 12% of the electorate asks for it. For Mr Davis, this means that almost 900,000 signatures can force a statewide vote; and a rich Republican congressman, Darrell Issa, says he will spend whatever it takes to get the signatures. The recall movement claims to have collected 800,000 names and to have sent 429,000 of them to the county commissioners to be validated.

The first official count is due on June 23rd. The recallers probably need about 1.2m signatures to ensure that 900,000 will be valid. Their opponents point out that this means collecting 150,000 names a week to achieve the aim of filing a petition by mid-July, and they claim that collection is slowing down.

So a recall vote cannot be taken for granted. Still, it has already gone further than the previous 31 attempts to unseat a California governor, and it has plunged state politics into an orgy of rumour. For instance, will Mr Davis resign, letting his lieutenant-governor, Cruz Bustamante, take over? Meanwhile, the governor has almost abandoned the state's most pressing business: closing the gigantic budget shortfall, which is $38 billion and counting. This week, the legislature failed to meet the deadline for passing a budget.

Opponents of the recall say this paralysis is yet more evidence of the damage a rich individual can do through ballot initiatives. But, even in California, you cannot conjure 1m signatures out of thin air. Mr Issa, who ran for Senate himself in 1998, sees his cash as fuel for a gathering revolt against the condition of California's economy, its budget, and Mr Davis's failure to address either problem.

America's biggest state is certainly in trouble. In the first five months of this year, companies in California announced over 50,000 job cuts. That is 15% of all jobs lost in that period in the country, higher than the state's share of employment (11%). The budget shortfall is well beyond the numbers Mr Davis used in his campaign. In a recent poll by the Public Policy Institute of California, only 30% of respondents said the state is heading in the right direction.



The fiscal and economic crises have hit Mr Davis particularly hard because they raise doubts about his leadership. The governor's great skill has been to avoid offending people. In a state where image—defined by negative television advertising—matters more than substance, the worthy, polite Mr Davis has usually won by being the least dislikable candidate.

However, when the master tactician is beholden to no one, no one is beholden to him. Mr Davis has no reservoir of goodwill. His ratings are awful. Only 38% of Democrats like him, one point more than the percentage who like George Bush. His job approval is a barrel-scraping 28%. Among likely voters, 51% want to see him go and only 43% want to keep him.

So the reasons behind the recall are comprehensible. But the political calculations it has unleashed could plunge state politics into chaos. Start with the timing. If the petitioners can get the names in by mid July, the recall should be approved before September 6th, and a vote could happen in October or November. If it were approved after September 6th, it would take place on March 2nd, the same day as the California presidential primary.

Conventional wisdom holds that the March date would help Mr Davis because more Democrats would go to the polls; in, say, October only people who really care about the recall, mainly Republicans, will turn out. This may not be correct: John Hein, the political director of the powerful teachers' union, reckons the Republicans will be keener to recall Mr Davis than Democrats are to defend him on any date. But for the moment everyone assumes that the timing of the recall is crucial. Mr Issa has said he might not run for governor if the election were held in March, which raises doubts as to whether he would go on financing the recall campaign.

Indeed, the manoeuvring among Mr Davis's would-be successors is even more Byzantine. Sherry Jeffe of the University of Southern California calls it “the most bizarre set of political equations I have ever seen.” Under state law, voters not only decide whether to fire the governor, but also select his possible replacement on the same day (their choice takes over only if the recall passes). This makes the recall election odd. In an ordinary election, parties put up a single candidate selected in a primary contest. There is then a long, costly campaign (Mr Davis spent $70m last time). A recall election has no primary. Multiple candidates can run on the same party ticket. It is easy to get on the ballot (a few thousand signatures or a cheque is enough). And the campaign, being short, is relatively cheap, perhaps $10m.

Vultures are already circling Mr Davis. On the Republican side, Mr Issa is the only declared candidate. But others thinking about running include Bill Simon, the conservative whom Mr Davis defeated last November, Richard Riordan, the moderate former mayor of Los Angeles, and Tom McClintock, an *über*-conservative. Arnold Schwarzenegger, who sponsored a successful ballot initiative on education, is once again making noises. But this time the star of “Total Recall” faces another fantasy candidate: Condoleezza Rice. The national security adviser and former provost of Stanford University says she has a lot on her plate but has talked wistfully about returning to California one day.

The anarchy option

The situation among Democrats is even more complex. They do not want Mr Davis recalled. But if he is, they do not want to be off the ballot. After all, California is a Democratic state—and they hope to keep the governorship even if Mr Davis goes.

So far only the state treasurer, Phil Angelides, and the state attorney-general, Bill Lockyer, have ruled themselves out. Mr Bustamante, who would be the first Latino governor, could be a formidable contestant. But the most fevered speculation focuses on the state's senior senator, Dianne Feinstein. She has come out against the recall, having herself defeated a bruising attempt to kick her out as mayor of San Francisco in the 1980s. But she is the best known, best liked state politician, she ran for governor in 1990 and she would start any race she entered as the favourite.

Mr Davis's people, whose manner can be as ferocious as the governor's is mild, are busy trying to bully more Democrats out of running. Mr Davis wants to turn any recall vote into a partisan battle. The trouble is that some Democrats do not think he can win even then. They would prefer to have one Democratic standard-bearer taking on several Republicans. But who? If the Republicans are strongly motivated, it could be a tough race even for Mrs Feinstein. And other Democratic candidates would not necessarily make way for her.

So the recall election could end up as a free-for-all—with three or four candidates per party, and maybe several independents. Bob Hertzberg, the former speaker of the state Assembly, calls it “the anarchy option”. Bernd Schweiren, the chief researcher for Republican state legislators, points out that candidates could be forced to run two campaigns—one for or against the recall and one for themselves. Even more disturbingly, with multiple candidates, the winner could be elected with perhaps as little as 20% of the vote.

Arnie Steinberg, who has run recall efforts against local officials, argues that successful recalls do not only say “Kick the bum out”; they add, “Things will be better if you do.” If there are half a dozen or more serious candidates, that positive message may get lost. This could make the recall look merely destructive, which may be why only a handful even of Republican legislators have endorsed it.

Twenty-five years ago this month, in another spate of fury at their elected rulers, Californians passed Proposition 13. The initiative, which permanently limited property taxes, spawned imitations across the country, started a national tax-reform movement and helped elect Ronald Reagan. Since then, representative government in California has been hemmed in by propositions determining everything from education policy to term limits. An initiative recalling the state's highest elected officer might seem to represent the culmination of this process.

It is not yet clear whether California will set a trend for recalls (there is no shortage of unpopular governors). It may be just an aberration, but the Recall-Davis campaign seems certain to destabilise Californian politics for at least a while. Whether that is for good or ill remains to be seen.

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John Ashcroft's intolerance (contd)

In defence of elderly hippies

Jun 19th 2003 | COLUMBIA, SOUTH CAROLINA
From The Economist print edition

The Justice Department doesn't seem to know when to stop

BRETT BURSEY will be back in court again, fighting the forces of reaction, on June 24th. The veteran protester was arrested last October for trespassing at the Columbia Metropolitan Airport as he held a sign ("No War for Oil") while waiting for George Bush to arrive.

This was not a new experience for him. Thirty-three years earlier, at almost the same spot, Mr Bursey was tossed in the paddy wagon for holding a sign that criticised another war (Vietnam) while waiting for another Republican president (Richard Nixon) to show up.

The 1969 case against Mr Bursey was dropped when the South Carolina Supreme Court ruled that anti-war demonstrators could not be charged with trespassing if they were on public property. Shortly after his most recent arrest, the trespassing charge against Mr Bursey was also dropped. But in March the local US attorney, Strom Thurmond junior, suddenly brought federal charges against Mr Bursey under a little-known law that allows the Secret Service to restrict access to areas the president is visiting.

Mr Bursey's trial will take place in the new courthouse in Columbia, named after the now 100-year-old Strom Thurmond senior (who, as it happens, helped his son get his current job). If convicted, Mr Bursey, who is 54, faces six months in jail and a $5,000 fine. Yet a growing number of liberal sorts seem to think that the real issue is the intolerance of John Ashcroft's Justice Department—and, in particular, its intention to start using the rare Secret Service law to get rid of protesters.

Last month, 11 members of Congress, including one Republican and several members of the House Judiciary and Homeland Security committees, sent a letter to Mr Ashcroft urging him to drop charges against Mr Bursey. They insisted that "no plausible argument can be made that Mr Bursey was threatening the president by holding a sign which the president found politically offensive."

Indeed, it is extremely hard to see why Mr Thurmond has picked on Mr Bursey out of all the people in the Secret Service zone. None of the other protesters with him was arrested. Neither were any of the several hundred supporters of the president who were holding equally dangerous (but pro-Bush) signs as they stood near the hangar where the president was to speak.

The prosecutors say that Mr Bursey was not in a special "free-speech zone" that was set up for protesters half a mile from the hangar. The pro-Bush people did not need to be there because they were not protesting. Mr Bursey told the cops, defiantly, that he was under the impression that the whole of America was a free-speech zone.

Bill Nettles, Mr Bursey's lawyer, claims that the case is being driven not by the young Mr Thurmond but by higher-ups in Washington, who want a new way to stifle dissent. "This is the type of small-brained decision that could only have been made by bureaucrats inside the Beltway," says the lanky Mr Nettles. Mr Thurmond's office declines to discuss the case. A spokesman says the office is aware of the letter from the 11 congressmen, but "unless we get a directive from Attorney-General Ashcroft's office [telling us to drop or settle the case], we shall proceed."

Mr Bursey's supporters note that Mr Ashcroft's men have decided to test their anti-protester law in a conservative stronghold, where the armed forces tend to be viewed more generously than elderly hippies and where the case will be heard by a judge without a jury. It is easy to see how Mr Ashcroft might not warm to Mr Bursey, who heads a "progressive network" of liberal organisations, used to edit an alternative newspaper, and has organised protests against, among other things, American war policy, nuclear power, racism and the Confederate flag.

In his various causes, both noble and foolish, Mr Bursey has been arrested dozens of times. Three decades ago he spent nearly two years in prison for spraying anti-war slogans on government property during the Vietnam war. Whether he deserves to go to prison next week for waving a sign is another matter entirely.

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Fraternal loyalty

The Battle of the Bulgers

Jun 19th 2003 | BOSTON
From The Economist print edition

A tale of Cain, Abel and the FBI

BOSTON has always seemed to enjoy the Bulger brothers: Whitey the mobster and Billy the politician, Irish boys from rough South Boston who grew up to rule the high and low ends of the city's power structure. William Bulger, 69, was president of the state Senate for many years and now heads the University of Massachusetts. Whitey—christened James—ran a drugs-and-gambling empire and became an FBI informant, so cosy with his handlers that they tipped him off to an indictment eight years ago. Now, at 73, he is a fugitive whom some suspect will never be caught—unless Billy shops him, as they suspect he won't.

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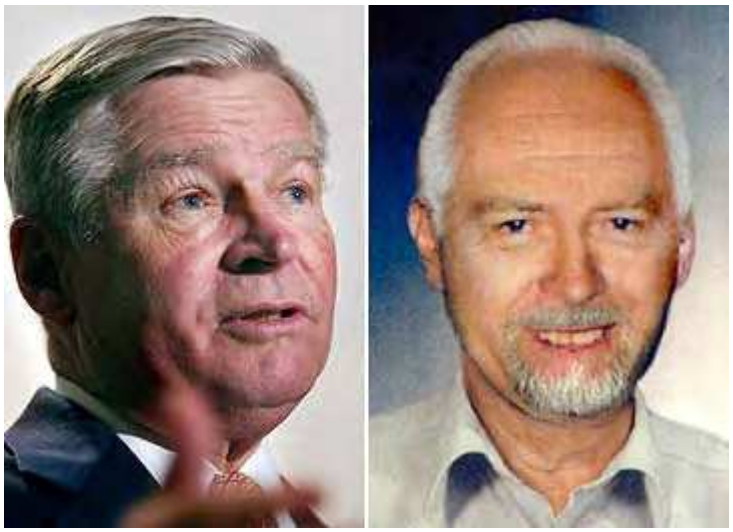

One ran for office, the other from the law

On June 1st, Thomas Reilly, the state attorney-general, gave public voice to the public's suspicions: that Billy has chosen loyalty to his brother over duty to help the police. He said Billy should resign. So has Mitt Romney, the new Republican governor, who had already proposed eliminating Billy's office to save money. Billy has snapped back, calling Mr Reilly's move “shameless” and “shabby”, and saying that, in any case, he had told Whitey, currently on the FBI's ten-most-wanted list, to give up crime.

The case against Whitey picked up vigour when police began to unearth bodies three years ago, in marshy fields, beneath subway trestles and along the highway that runs out of South Boston. Whitey is now wanted in connection with nearly two dozen murders, besides the racketeering charges that prompted his escape. And the Justice Department, whose image was badly sullied by Whitey's flight, has started to clean up with a vengeance.

Recent years have seen a string of convictions and guilty pleas concerning mobsters, a state police officer, an ex-bookie and a phone-company worker who let slip that a tracing device had been placed on Billy's line. Last year, John Connolly, the FBI agent who handled Whitey as an informant, was sentenced to ten years in prison for racketeering and obstruction of justice. In April the Bulgers' younger brother, Jackie, pleaded guilty to perjury and obstruction of justice after he lied to a grand jury about a Florida safe-deposit box Whitey had used.

Billy faces no charges, but he has not escaped questions. Two years ago he testified, with immunity, before a federal grand jury. In December, he was called before the House Committee on Government

Reform, which is probing the informant programme, and invoked his Fifth Amendment rights. On June 19th, as *The Economist* went to press, he was due to reappear, under a new immunity deal.

Given that protection, the legal questions that surround Billy seem less pressing than the political ones. In some ways, a new style of politics has come to rule Massachusetts. Mr Romney, a business-school graduate, dislikes the Bulger style of governing through patronage and personality. A recent *Boston Herald* poll said 51% of Massachusetts voters want Billy to quit.

But he has plenty of supporters. The trustees of the University of Massachusetts praise him for increasing donations. His friends in the legislature have not hesitated to protect him. His fans even booed Mr Reilly at the Democratic state convention on June 7th. And Billy has made it clear that, unlike his brother, he intends to stay exactly where he is.

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Fast cars and slow bishops

Holy rollers

Jun 19th 2003 | LOS ANGELES
From The Economist print edition

Just when you thought things might be getting better for the Catholic church

Get article background

IT SEEMED a bit rich when a lawyer representing 25 Los Angeles strip-clubs, embroiled in a dispute about proposed restrictions on lap-dancing, said that if people were worried about moral decline, they should be more concerned about the Catholic church. But as the *Los Angeles Times* pointed out, standards of honesty among strippers can sometimes be higher than among cardinals. It found plenty of unvarnished truth tellers in the strip joints ("It's a brothel in here"). The archbishop of Los Angeles has proved rather less keen about public scrutiny of the church's failings.

Almost exactly a year ago, at the height of scandals over priestly pederasty, the US Conference of Catholic Bishops set up a lay review board to investigate the scandals and help rebuild parishioners' trust in the church. The bishops appointed Frank Keating, a sharp-tongued former governor of Oklahoma, to run the board. This week, Mr Keating resigned after Cardinal Roger Mahony, the archbishop of Los Angeles, said he had lost the confidence of ecclesiastical authorities (ie, bishops like him).

Admittedly, Mr Keating's comments were somewhat over the top. He compared the bishops to the Mafia ("like La Cosa Nostra"). Presumably, he meant they are rigidly hierarchical, like to protect themselves from external scrutiny and defer to the, er, Godfather (rather than that they kill people). This proved too much even for some members of the board itself, let alone Cardinal Mahony.

How much will Mr Keating's resignation disrupt reform? The immediate cause of the dispute—and of his frustration—was a survey commissioned by the panel to ascertain the extent of sexual abuse by priests. The survey will continue, even though Cardinal Mahony wrote to other bishops urging them not to co-operate with it, arguing it could violate state privacy laws. By most accounts, compliance has so far been patchy.

Overall, the Conference of Catholic Bishops, which began its spring meeting in St Louis as *The Economist* went to press, can claim to have made modest progress in addressing the abuses of decades. It has instituted a "zero-tolerance" policy on sexual abuse (though one might be surprised it was needed). It has removed from the ministry around 500 priests suspected of abuse. It has the review board and a new Office of Child and Youth Protection.

The trouble is that—as the Keating affair shows—the review board and the rest of it depend almost entirely on the bishops. If they do not co-operate, the only recourse is to go public, which does not work either. The bishops may think the issue is their confidence in Mr Keating, but it may well be the laity's confidence in the bishops. There is an unresolved difference between those, like Mr Keating, who want greater openness and others, such as Cardinal Mahony, who fear that the revelations are starting to undermine the church's legitimate work.

As if the standing of the church could not fall any further, this week also saw the arrest of the bishop of Phoenix. Thomas O'Brien has resigned to face felony charges over a hit-and-run accident in which a jaywalker died. His car was seen to speed off and his windscreen is damaged. If he is found to have been drunk, the charges could rise to manslaughter or negligent homicide. Hardly the ideal preparation for the St Louis meeting—or for a church still stuck in its worst crisis in decades.

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Policing the oceans

Swimmers of the world unite

Jun 19th 2003 | NEW YORK
From The Economist print edition

A new role for the watery more-than-half of America

IS AMERICA finally going to re-examine the hodgepodge of laws governing its oceans? The United States controls 4.5m square miles of them (11.6m square kilometres), an area about a fifth bigger than its land area, and they are being ruined by overfishing, rapid coastal development and pollution.

Most of the laws governing the seas come from the 1969 Stratton Commission, which was set up to deal with poaching by other countries' fishing fleets. Since then, measures have been introduced on a crisis-by-crisis basis, but there has been no comprehensive attempt to regulate either seashore sprawl (half the population lives in coastal counties) or the ever more high-tech fishing industry. One chance to set up a proper regime passed in 1983 when Ronald Reagan expanded America's marine territory from 12 to 200 miles offshore.

On June 4th, the bipartisan Pew Oceans Commission released the first big report since Stratton. It has plenty of scary reading. It also calls for a National Oceans Policy Act, which would bring together all the regulation of the seas at the federal level. In the autumn, an official Commission on Ocean Policy will present its own report to Congress. It has worked closely with Pew, but its mandate is much broader, bringing in matters such as transport and port security.

The Pew report concentrates on two evils: overfishing (around 90% of America's large marine fish, such as tuna and swordfish, are now gone) and pollution. It argues that oil spills and beach trash do less harm than the unregulated pollution that trickles into the sea from inland factories and farms. In 2001, more than 13,000 beaches were closed or under “pollution advisories”.

Greens now hope that George Bush will protect America's oceans in the same way that his hero, Theodore Roosevelt, created national parks and game refuges on land. But with an election looming, and with conservatives already howling about other green laws, that does not look likely. Unless of course the swimmers of the world unite.

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Lexington

Philosophers and kings

Jun 19th 2003
From The Economist print edition

A strange waltz involving George Bush, ancient Greece and a dead German thinker

FROM the moment George Bush moved into the White House, the search has been on for the man (or woman) who is pulling his strings. Is the puppeteer Dick Cheney or Donald Rumsfeld? Karl Rove or Condoleezza Rice? Big Oil or old-time religion? Each has had their spell in the spotlight. But now all are forgotten in the fuss about the most surprising suspect of all: Leo Strauss, a political philosopher who died in 1973 and wrote such page-turners as “Xenophon's Socratic Discourse”.

In March the *Executive Intelligence Review*, an eccentric website run by Lyndon LaRouche, posted a profile of Strauss entitled “Fascist Godfather of the Neo-Cons”. You might have thought that the article's overheated language and conspiracy-mongering would have killed the argument. But since then a flotilla of respectable publications, from the *New Yorker* to *Le Monde*, have jumped on the bandwagon. Who on earth was Leo Strauss?

The “Fascist Godfather of the Neo-Cons” was, in fact, a German Jew who fled the Holocaust to find a safe haven in the United States. He produced a series of learned studies of political theorists that are variously described as seminal and utterly opaque. But his real talent was for teaching. He taught at the University of Chicago for two decades, and produced a small army of devoted pupils who spread the word.

One reason why Strauss is in the news is because so many of his admirers are now important figures in conservative Washington. Paul Wolfowitz, the deputy secretary of defence, invariably tops the list, but other Straussians in or around the administration include Abram Shulsky, director of the Pentagon's Office of Special Plans, John Walters, the drug tsar, and Leon Kass, the head of the president's council on bioethics. Irving Kristol, one of the first neocons, has passed the creed down to his son Bill, the ubiquitous editor of the *Weekly Standard*. Every July 4th, about 60 Washington Straussians have a picnic.

The second reason why Strauss is so controversial is that a little selective quotation can be used to give his thinking a decidedly sinister tinge. Strauss emphasised both the fragility of democracy and the importance of intellectual elites. He was also a devotee of Plato, who famously argued that “philosopher kings” sometimes had to be willing to tell “noble lies” in order to keep the ignorant masses in line. The implication: Mr Wolfowitz and his fellow Straussians deliberately lied about Saddam Hussein's nukes to

advance their political cause.

This is stretching it. Strauss was critical of democracy in much the same way that Winston Churchill was: he believed (unlike Plato) that it was the worst political system apart from all the others. He focused on the weaknesses of liberal democracy—particularly its habit of underestimating the dangers of tyranny—precisely because he had seen the Weimar Republic destroyed at close hand.

As for Mr Wolfowitz, he is a clever cove, but deputy defence secretaries don't go around making the country's foreign policy—particularly when they have men like Mr Rumsfeld and Mr Cheney sitting above them. Nor is Mr Wolfowitz a pure Straussian. He may have studied with Strauss's alter ego, Allan Bloom, and even earned a walk-on part in Saul Bellow's novel, “Ravelstein”, but the biggest influence on his thinking was Albert Wohlstetter, a mathematician-cum-military strategist.

So is the flap about Strauss a pointless waltz? Arguably, Mr LaRouche and the *New Yorker* have been looking in the wrong place. The true impact of all these Straussians walking the corridors of power is not really to do with telling noble fibs in diplomacy; it has to do with domestic policy.

Having a Platonic relationship. No, really

The rise of the Straussians suggests that American conservatism has shifted its focus from liberty to virtue. Ronald Reagan was surrounded with free-marketers in Adam Smith ties. Newt Gingrich regarded the government as a monster that needed to be beheaded. But Mr Bush is an intensely religious man who has no qualms about using big government to improve people's behaviour. Strauss was an agnostic, but he also stressed the cultivation of personal virtue, and his followers (perhaps traducing him, and certainly outraging Plato) have argued that organised religion is a necessary buttress of civilisation.

Strauss's paternalist side would have warmed to the way that Mr Bush has expanded the Department of Education, has started promoting marriage through the Department of Health and Human Services and has toughened America's drug policies. Straussians such as Mr Walters and Mr Kass have helped to clothe Mr Bush's Christian instincts in the non-religious language of moral philosophy and practical policy.

More than anything, however, the Straussians show what a strangely intellectual place Washington is. It may be led by a man who regarded Yale as a drinking competition (which he damn-near won). But it is a place where PhDs are a dime a dozen and where people seriously debate everything from “rules and tools for running an empire” (the topic of a seminar on June 16th) to the cultural contradictions of capitalism. In what other world capital, except perhaps Paris, could 60 Plato-worshipping politicos and academics have a picnic?

The rise of the Straussians also illustrates an odd point about modern American conservatism. Despite all their bile about Old Europe, the American right has repeatedly found its inspiration in European thinkers. A few years ago, it was an Austrian libertarian called Friedrich Hayek. Now it is a German Jew who regarded ancient Greece as the fountain of all wisdom. With European constitution-makers seeking inspiration in the Philadelphia Convention, and American conservatives embracing European philosophical tracts, perhaps transatlantic relations aren't quite as bad as all that.

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Correction: AQMD and Erin Brockovich

Jun 19th 2003
From The Economist print edition

Our piece on Erin Brockovich (June 14th) stated that the South Coast Air Quality Management District (AQMD) was named in lawsuits filed by Ms Brockovich and Ed Masry against various oil companies on behalf of former students of the Beverly Hills High School who are now suffering from cancer. This was an error; AQMD is not named in the lawsuit.

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Brazil's economy

Lula 'twixt inflation and recession

Jun 19th 2003 | SÃO PAULO
From The Economist print edition

AP

The central bank acts to cool an overheated debate on the politics of interest rates

Get article background

WHEN Luiz Inácio Lula da Silva pays his first presidential visit to Washington this week, will pundits portray him as “embattled” or as “in command”? Investors, who worried that a left-wing president would unleash inflation and/or default on Brazil's debts, have been won over by Lula's tight fiscal and monetary policies. Despite this austerity, his popularity with Brazilians is at record levels for a president who has now been in office for almost six months. Yet Lula is under fire, mainly from his supposed allies. Civil servants plan a strike starting on July 8th to protest against a bill to trim their pensions, a measure vital for containing Brazil's debt. In an outburst last month, José Alencar, a textile magnate who is Lula's vice-president, questioned the competence of the central bank and, by implication, that of the government economic team.

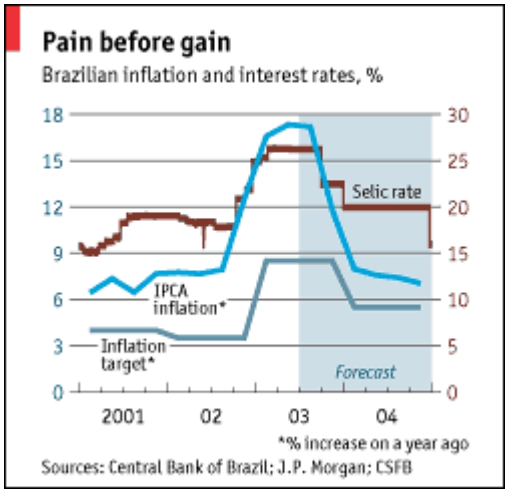
What has prompted the carping is that the government's austerity policies are starting to bite. Output shrank in the first quarter of this year (by 0.1%). It is thought to have done so again in the second quarter. Industrial production in April was 4% lower than 12 months earlier. If things get much worse, Lula's popularity may erode, and with it the political strength required to sustain austerity and push reforms through a reluctant Congress. The pressure would then grow for a “Plan B”, involving the dash for growth led by state spending touted, among others, by some economists in Lula's own Workers' Party. That would be disastrous.

The government has little room for manoeuvre in fiscal policy: to stabilise the public debt, it is committed to a surplus (before interest payments) of 4.25% of GDP. So it is up to the central bank to steer between recession and inflation. Under Lula, it has worried mainly about inflation, which got a push from last year's sharp devaluation of the *real*. Henrique Meirelles, the new central-bank chief, and his colleagues have raised the benchmark rate by 1½ percentage points this year to a growth-throttling 26.5%.

On June 18th, however, they changed course, cutting the rate (by half a point) for the first time since last July. Lula's future may depend, in part, on whether the central bank cut too little, worsening the downturn, or too soon, allowing inflationary pressures to linger like bacilli surviving an incomplete course of antibiotics.

Inflation is in retreat, but has it been beaten? The IPCA index (see chart), which measures consumer prices, dropped from a monthly peak of 3% in November to 0.6% in May. But it is still likely to come in well above the central bank's revised annual target of 8.5% for 2003 (originally 4%). Some components remain stubbornly high, perhaps because businesses and workers are winning rises in prices and wages based on high past inflation rather than lower rates in the future. That kind of indexation fuelled the high inflation that plagued Brazil for decades until it was ended by the *Real* plan of 1994. A different index, of "core inflation", which is closely watched by the central bank, has been especially slow to fall.

Another reason not to cut rates precipitately is that the economy may be stronger than it looks. Most private analysts expect growth of more than 1% in 2003. Exports are booming, thanks to the weak *real*; once inflation is licked, interest rates should drop quickly, reviving the economy. The unemployment rate has risen since last year, but so has the number of people in work. The hardship comes from a sharp fall in average real wages, a wound inflicted by inflation, not recession.



Yet this week's interest-rate cut does not look like a reckless gamble with the central bank's credibility. Data released just before the decision suggested that even the most stubborn indices are retreating: a preliminary estimate of consumer inflation this month was less than 0.2%. Real interest rates in Brazil remain among the highest in the world. But the benefit from the cut might be large. It should subdue, though it will not silence, critics such as Mr Alencar. More important, it should help protect Lula from radicals who want to dump austerity and gut reform in favour of exchange and price controls.

The central bank has its own agenda to protect. The Lula government has agreed in principle to give it formal autonomy (to meet inflation targets, not to set them) but is waiting until hostility to the idea cools down. Inflation targeting itself is being lambasted: some say it does not work in an economy vulnerable to buffeting from the outside world, others that the targets have been too ambitious and the central bank too rigid in trying to meet them. In a public-relations war, a rate cut can be a useful weapon. "Sometimes you have to retreat to reinforce," says Gustavo Loyola, a former central bank president who now works for Tendências, a consultancy.

If the central bank has succeeded in easing political pressures without surrendering to inflationary ones, growth will resume. But that could bring new perils. Unless investment keeps pace with renewed growth, says Alexandre Schwartsman, chief economist at Unibanco, a big Brazilian bank, trade deficits will again menace the economy. But for Lula, at least that might be a more welcome problem.

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Cuba's cocktail-party war

No eating my canapés any more

Jun 19th 2003 | HAVANA
From The Economist print edition

Cruel and unusual punishment for Europe's diplomats

Get article background

AP

Anti-European rage at twilight

IT IS the kind of rhetoric Fidel Castro normally keeps for his best enemy, the United States. But this month he led protests by hundreds of thousands of dutiful Cubans outside the embassies of Spain and Italy. Spain's prime minister, José María Aznar, was denounced as “a little Fuehrer”, and Silvio Berlusconi, his Italian counterpart, as “a fascist”. Both were said to be pushing the European Union into a “fascist-imperialist” alliance with America.

Translation: in the aftermath of Mr Castro's move in April to smash a small but growing democracy movement, his relations with Europe, Cuba's chief trade and investment partner, have fallen to an all-time low. The EU responded to the jailing of dissidents with some mild sanctions: it shelved plans to include Cuba in an aid and trade pact with former colonies, limited high-level visits and cultural exchanges, and began to invite those dissidents who are still free to embassy national-day receptions.

Mr Castro has quickly counter-attacked. Cuban officials would no longer attend EU receptions. Nor would European diplomats be invited to Cuban ones. If diplomats spent too much time with dissidents, the former would be expelled and the latter jailed. Mr Castro also closed Spain's cultural centre in Havana, calling it subversive. The EU foreign ministers responded by again calling for the release of dissidents and hinted at further sanctions.

In fact, these are unlikely. Mr Castro's crackdown has united the EU, which was previously split over how much to engage with his regime. But few Europeans favour economic sanctions, such as cutting aid or trade credits, which would hurt ordinary Cubans. But equally, few expect to make new investments in the island.

George Bush, no doubt to Mr Castro's surprise, decided last month not to tighten the United States' nowadays looser trade embargo against Cuba. So the old dictator has pulled off something improbable: aligning American and European policy towards his regime more closely than at any time in the past four decades.

No problem, says Mr Castro, Cuba still has plenty of friends in Africa, China and South America. It is true that Brazil and Venezuela blocked efforts by the United States to condemn Cuba at last week's meeting of foreign ministers from the Organisation of American States. But such friends have little else to offer Cubans.

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Protests in Ecuador

Combustible

Jun 19th 2003 | QUITO
From The Economist print edition

A strike wave and a weak government

Get article background

LUCIO GUTIÉRREZ, a former army colonel, won Ecuador's presidential election last year at the head of a rag-bag coalition of trade unions, Andean Indian farmers and assorted radicals. On taking office in January, he quickly found that governing would require forgetting many of his expensive campaign promises. Facing a fiscal chasm, he struck a deal with the IMF to unlock up to $500m in loans in return for reforms. One by one, his erstwhile supporters have begun to oppose him.

The latest to do so were the workers at the state-owned oil company. On June 9th they went on strike, shutting down the main oil pipeline for 18 hours, and disrupting petrol supplies and exports of oil, Ecuador's chief earner of foreign currency. Their union opposes the government's plan to allow more private investment in the oil industry. But it also wants to block a proposed civil-service reform which would revamp wage scales and cap severance pay. This issue has already helped to prompt strikes by health workers, teachers, and electricity workers.

The government has squeezed through one or two changes, including some tough fiscal measures early on, and a reform of the corrupt customs service. Now it looks stuck. The government looked this week to be close to ending the oil strike, but to do so it seemed prepared to water down its plans to encourage private investment in the industry, the best hope of faster economic growth. Having promised the teachers wage increases, it will be hard to find the cash without breaching the IMF agreement. And Mr Gutiérrez has fewer and fewer friends: Pachacutik, an Andean Indian party which was the president's chief ally, seems unlikely to remain in government for much longer.

The government has made some tactical mistakes. Mr Gutiérrez and many of his advisers lack political experience. The president has a tendency to zigzag on policy. But Ecuador's politics seldom functions well. Regional and social divisions have bred intransigent interest groups whose demands cannot often be reconciled by a fragmented political system. Neither of the last two elected presidents before Mr Gutiérrez lasted longer than 18 months. Indeed, as a dissident army officer, he and his former friends among the Andean farmers were instrumental in toppling one of them. He has work to do if he wants to avoid a similar fate.

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Social policy in Canada

Judges come out for gays

Jun 19th 2003 | OTTAWA
From The Economist print edition

A decisive step towards same-sex marriage

Reuters

Just don't try it yet in Alberta

FOR gays in Canada—and perhaps for those in the United States—June 17th may well go down in history as marking a big step towards their enjoyment of a right previously confined to heterosexuals. Just a week after the Ontario Court of Appeal ruled that same-sex marriages were legal in Canada's most populous province, the federal government announced that it would draft a bill to make this national policy. So, to the dismay of social conservatives, it was not a bad day for Canadian judicial activism either.

The bill is likely to become law. If it does, Canada would follow Belgium and the Netherlands to become the third country to give legal status to same-sex unions. Canadian marriage licences are accepted in the United States; many gay Americans are now likely to cross the border to wed, throwing American law into confusion.

Many Canadians were surprised at the speed with which Jean Chrétien's Liberal government endorsed the court's decision. The House of Commons' justice committee, which had heard hundreds of witnesses on the issue, had yet to report. Although one poll shows 54% support for the move, a large majority of older people and those in rural areas are against.

The government had two reasons for haste. Lower courts in British Columbia and Quebec had already made similar rulings. The justice minister had to decide by June 30th whether to appeal the British Columbia ruling to the Supreme Court. Secondly, and more compellingly, the Ontario court made its ruling of June 10th effective immediately, ordering officials to issue licences that day. More than 100 gay couples rushed to get married. One person to do so was a former bank manager, another a crown attorney.

The Ontario court, like the others, based its ruling on Section 15 of Canada's Charter of Rights and Freedoms, which the judges have interpreted as forbidding discrimination on the basis of sexual orientation. The court called the exclusion of gays from the institution of marriage illogical, offensive and unjustifiable. These words carried additional clout since they were delivered by Roy McMurtry, Ontario's Chief Justice, who as a provincial minister in 1982 worked alongside Mr Chrétien (then the federal justice minister) in a three-man “kitchen cabinet” to win support for the Charter.

But backing among Liberal MPs for same-sex marriage is far from solid. Their doubts were on display at a meeting last week of the House of Commons' justice committee. When Svend Robinson, an MP for the leftish New Democrats and a gay activist, moved a motion to accept the Ontario court ruling, the Liberals on the committee split 5-4 in favour, even though government whips had replaced two opponents of the measure with supporters. Bill Graham, the foreign minister, whose Toronto constituency has Canada's largest population of gays and lesbians, gave a passionate speech in favour to a meeting of Liberal MPs. He got a mixed reaction. Some opposition stems from growing disquiet about judicial activism.

Mr Chrétien has said he will refer the bill to the Supreme Court to make sure it is constitutional, and then submit it to a free vote in Parliament. The battle will be bruising. An influential group of lawyers, professors, bishops and Islamic leaders issued a statement against the change. If the bill is approved, Ralph Klein, the conservative premier of Alberta, threatens to use a constitutional get-out clause to block its implementation in his province. But Canada as a whole is less socially conservative than Alberta, or than the United States. And the judiciary has left Parliament with little choice but to follow its lead. It has probably set the country on the road to a small revolution in family law and family life.

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The Caribbean

Virgins stained but saved

Jun 19th 2003 | PORT-OF-SPAIN
From The Economist print edition

A morality tale from a financial colony

A CRISIS in the British Virgin Islands sounds like an oxymoron. The territory, one of five remaining British colonies in the Caribbean, is a haven for yachts, cruise-ships and rich tourists (Sir Richard Branson, a British businessman whose companies happen to share the name Virgin with the territory, owns one of the islands). A well-regulated offshore finance industry brings in $100m a year, mainly from company registrations. The 21,000 inhabitants enjoy an income per head averaging $37,000. The last thing this dreamland needs, or is used to, is a corruption scandal.

Yet it has one. Last month, Allen Wheatley, who as financial secretary was a rising star in the local civil service, was committed for trial on charges of fraud over a contract for telecoms services at the new airport. One of those charged with him is a nephew of the health minister. Mr Wheatley and an associate have already been convicted over another contract; he is appealing.

Now, the government has been punished, too. In an election on June 16th, the voters kicked out the Virgin Islands Party, giving the opposition eight of the legislature's 13 seats. It was close: the opposition won one of its seats by three votes, and another by 41. But it was enough. As well as Mr Wheatley's case, the government was tarnished by other contract rows. Virgin Islanders know that to flourish as an offshore centre nowadays means keeping a reputation for virtue intact.

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Correction: Guatemala

Jun 19th 2003
From The Economist print edition

In a recent story on Guatemala ("A country turns upside down," May 17th) we said that "no one has yet served time for the 1998 killing of Bishop Juan Gerardi". In fact, three former soldiers were jailed for the murder in 2001; two remain in custody while awaiting a re-trial after their convictions were annulled by an appeals court last year; the third was killed while in jail. Secondly, it is not correct that there is no plan to compensate the victims of army-organised civil-defence patrols. Although such a plan was blocked in Congress, the government is implementing it by presidential decree.

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Regulating capitalism in South-East Asia

Unreformed, unrefined, unrepentant

Jun 19th 2003 | BANGKOK
From The Economist print edition

Reuters

The things that have not been learned since 1997

HAS Thailand put the Asian crash of 1997 behind it? In one sense, yes: in the first quarter, its economy grew by 6.7% compared to the same period a year ago—approaching the sort of meteoric growth the country enjoyed in the 1980s and early 1990s. Property, the sector hardest hit by the crash, is booming. Now the government looks likely to force a restructuring at Thai Petrochemical Industry (TPI), a conglomerate which suffered the biggest and most fiercely disputed of the many spectacular corporate bankruptcies brought on by the crisis.

But the concerns raised by the crash are far from resolved. The restructuring of TPI, although welcome in principle, involves exactly the same sort of corporate shenanigans and legal inadequacies that helped foment the crisis in the first place. The government is meddling unrepentantly, and with the economy booming there is even less incentive to address such issues. Similar problems apply in much of the rest of South-East Asia.

TPI began as a classic tale of corporate skulduggery. When the baht was devalued in 1997, the firm could no longer service its $3.7 billion of debt. While stone-walling the creditors, Prachai Leophairatana, the firm's founder (above, left) spent recklessly on a port and other projects. He allegedly tried to make TPI look solvent by fiddling the books to inflate the value of its assets. And he slipped money out the back door by paying 90 years' rent in advance on a building that happened to be owned by his family.

But as soon as the creditors took to the courts to press their claims, the case began to highlight the inadequacies of Thailand's laws. For starters, Thai courts do not recognise the concept of vexatious litigation, so Mr Prachai has been able to bog TPI's restructuring down in endless lawsuits. Also, even under a new bankruptcy law introduced since the crisis, the definition of bankruptcy is not clear. It took the courts three years to declare TPI insolvent.

More recently, the case has started to call into question the conduct of Thailand's judges. In April, the bankruptcy court booted out the creditors' managers at Mr Prachai's behest, and put him back in charge, even though the law gives the creditors the right to appoint the administrators of a bankrupt firm, and the creditors by then held a majority shareholding. Supposedly neutral court functionaries helped Mr Prachai mount the petition. The bizarre nature of the ruling laid the judges open to accusations of

incompetence or corruption. Since then, the court has rejected the creditors' choice of administrator, and announced that the government should run the company instead.

That was when the affair began testing the government's commitment to reform. It is currently suggesting that the company be run by a committee of representatives of both Mr Prachai and the creditors, with a government official in the chair to keep the peace—effectively condoning the abrogation of the creditors' rights.

All of this squares with the philosophy of Thaksin Shinawatra, Thailand's prime minister (above, right). During his own investigation for corruption (of which he was eventually cleared), he made clear his distaste for matters of procedure. When he came to office, he set up a government agency to buy up bad debts and restructure them, with the explicit aim of preserving Thai businesses, rather than maximising returns to the taxpayer. And he has always made it clear that he would prefer Thai businesses to remain in local hands.

Indeed, Mr Thaksin's party, Thai Rak Thai (Thais Love Thais), has always promoted a mildly nationalist platform. In doing so, it encourages xenophobic ideas that have gained ground since the crash. Mr Prachai managed to win public sympathy by painting TPI creditors as foreign corporate raiders bent on dismantling a Thai industrial treasure—ignoring the inconvenient fact that the biggest creditor is a Thai firm, Bangkok Bank.

The picture in Indonesia is similarly mixed. In the first quarter of this year, thanks in part to high prices for its oil exports, the country experienced a mini-boom. Its stockmarket soared, the rupiah jumped against the dollar and foreign investment picked up. But it has even bigger and more intractable debtors, such as Asia Pulp and Paper (APP), a regional conglomerate whose creditors are currently raising a ruckus over the latest plan to restructure its $13.9 billion in debts. Its courts are just as unpredictable: one recently declared a perfectly solvent company bankrupt for not paying a dividend.

Even Singapore, usually regarded as the best-governed country in the region, faces a terrible dilemma over the lingering legal fallout from the crash. If it is too lenient with defaulters under its jurisdiction (including APP, which is listed on the local exchange), it might undermine its reputation as a bastion of corporate integrity; if it is too tough, it might drive away the Indonesian tycoons who invest so much of their money offshore in Singapore.

Cases like APP and TPI are not necessarily representative of governance in the region. Malaysia, for one, has made much more headway sorting out the post-1997 mess. In Thailand and Indonesia, too, many reforms have been implemented since the crash. But such incidents reveal how much remains to be done—and how little enthusiasm some governments show for doing it.

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ASEAN and Myanmar

A slap on the wrist

Jun 19th 2003 | PHNOM PENH
From The Economist print edition

Myanmar barely rebuked over Suu Kyi

Get article background

AT THE end of their two-day meeting in Phnom Penh this week foreign ministers from the Association of South-East Asian Nations (ASEAN) said they “looked forward to the early lifting of restrictions placed on Aung San Suu Kyi.” It seemed an extraordinarily feeble protest about the detention of Myanmar's democracy leader. Yet by ASEAN's standards it was a tough one. It was the first time ASEAN had rebuked a member state, departing from its policy of not interfering in members' internal affairs.

AFP

Let's not talk about democracy

Myanmar's foreign minister, Win Aung, tried in vain to sell the notion that Miss Suu Kyi had been detained only “for her own protection”. Such talk confirmed to the other nine foreign ministers that Myanmar is a worrisome partner, and an embarrassing one. ASEAN has been trying quietly to persuade Myanmar's military government to move towards “dialogue and reconciliation” with the pro-democracy movement.

There is no sign of that. Miss Suu Kyi seems to have been detained because she is too popular. She was held after a convoy of her supporters was attacked by a pro-government gang in northern Myanmar at the end of May. ASEAN is now anxiously looking towards 2006, when the rotating chairmanship is due to pass to Myanmar. Unless some kind of democracy is established there by then, the regional grouping will be presided over by what much of the world regards as a pariah state. ASEAN will continue to hope. An Indonesian-led delegation is expected to visit Myanmar soon to push for the speedy release of Miss Suu Kyi and ask the generals to start “dialogue” with the opposition.

The United States and the European Union are tightening sanctions on Myanmar following Miss Suu Kyi's detention. But Malaysia, Thailand and Singapore, among ASEAN's most influential members, continue to woo the generals by encouraging trade and investment projects.

This week's meeting has at least made it clear that the ASEAN principle of non-interference in each state's domestic affairs is outdated. The Myanmar problem apart, countries of South-East Asia have become increasingly aware that they cannot shut their eyes to terrorist activity, which ignores borders. If a neighbour is weak on security, it has to be told.

On June 18th in Phnom Penh the political stage widened with the arrival of other Asian and western foreign ministers to form, with ASEAN members, the 23-member Asian Regional Forum. The star of this event was the American secretary of state, Colin Powell, who was on a quick tour of the region. His chief concerns were North Korea and terrorism. But everyone wanted to know his view on Myanmar. He did not repeat an earlier reported remark that it was ruled by thugs. But he did say it was necessary to take a “harder line” towards Myanmar if Miss Suu Kyi was not released “and allowed to participate in a political process” in the country “in a democratic way”. This won the approval from everyone except the usually talkative Mr Win Aung. He listened in stony-faced silence.

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India and Pakistan

The hawks take wing

Jun 19th 2003
From The Economist print edition

India and Pakistan are blaming each other for slow progress on Kashmir

Get article background

FOR the past week, with more to come, the leading hawks of India and Pakistan have been trading accusations while travelling to and from America and Britain. L.K. Advani, India's deputy prime minister, met George Bush and other top politicians in Washington, and then saw Tony Blair in London, where he was followed quickly by General Pervez Musharraf, Pakistan's president. The general, moving in the opposite direction to Mr Advani, is in Washington next week, where he expects to pick up further economic and military rewards in return for his help against al-Qaeda. Meanwhile, Atal Bihari Vajpayee, India's prime minister, who launched a peace initiative with Pakistan in mid-April, will be visiting China, Pakistan's leading international ally, seeking help against Pakistan-aided terrorism in the disputed northern region of Kashmir.

AFP and AP

If it's Monday, it must be Advani...if it's Tuesday, it must be Musharraf

At times, it has sounded as if the Vajpayee initiative is on the rocks. After General Musharraf appeared, a week ago, to threaten a repeat of the mini-war between the two countries at Kargil three years ago, Mr Vajpayee gave warning that Pakistan seemed to be preparing for its “fourth defeat” at the hands of Indian troops. Mr Advani accused Pakistan of being an “epicentre of terrorism” and a hotbed for al-Qaeda. General Musharraf claimed that Indian Kashmiris did not want to live in India. Both sides also repeated 55-year-old claims for all the other side's territory in Kashmir, ignoring the current focus on the Indian-controlled Srinagar Valley.

Despite all this, some progress is being made. Both sides are still up for reopening an Amritsar-Lahore cross-border bus route on July 1st. Pakistan's new high commissioner is expected to arrive in Delhi by the end of June and India's high commissioner should be in Islamabad by the middle of July. There are exchange visits by delegations of parliamentarians and businessmen planned. But flights between the two countries have not been restored, possibly because Pakistan does not want to help India develop air links with Afghanistan and Iran by granting overflight rights; and there has been no progress on restoring trade or rail links.

India is not willing to move further until it is convinced that Pakistan has stopped helping terrorists cross the “line of control” that divides the two countries in Kashmir. India seems unlikely to agree to a formal meeting between foreign secretaries during a South Asian regional conference in Kathmandu next month, which Pakistan would like. India rejects Mr Musharraf's claim that he has put a stop to border-crossing by terrorists, and that their camps have been dismantled. It says that infiltration has not been reduced. The

death toll remains high: nearly 450 people, civilians as well as soliders, have been killed since Mr Vajpayee's peace initiative started.

At home in Pakistan, General Musharraf is under pressure both from the increasingly popular Islamic parties and from his own army. He is therefore insisting on what he calls “reciprocation” from India. Without it, he told the BBC this week, his critics would blame his government for a “sell-out” of Kashmir. He even hinted they might “turn their guns” against him.

Perhaps the most hopeful sign is that, in India, Mr Vajpayee seems to have public opinion with him in trying to make peace with Pakistan. Despite scepticism within his Bharatiya Janata Party, and even though there is no prospect of a Kashmir settlement in the foreseeable future, the BJP seems content to let the prime minister's peace initiative continue. There is still every chance that, like so many others, it will not lead anywhere, but its mere existence could improve the party's prospects in the state elections due this autumn and the general election next year.

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India

No more aid please

Jun 19th 2003 | DELHI
From The Economist print edition

India doesn't need any

FLUSH with foreign-exchange reserves of some $82 billion, India wants to be seen as a world power by shaking off the begging-bowl image and assuming the role of a donor, rather than a recipient, of aid. It may take a while, but the government has taken a significant step this month by telling 22 donor countries that, once existing programmes are completed, it does not want to receive their aid on a government-to-government basis any more.

It has also begun to restructure its $54 billion international debt burden. Last year it paid off $3 billion of its more expensive multilateral loans early. This year it plans both to double that figure, and also to double its own $600m-700m aid budget, adding African countries to existing Asian recipients.

The 22 donor countries provide $600m of India's total $2 billion-2.5 billion annual aid income (which is only about 6% of the government's capital investment budget). They have been asked to provide any future aid directly to non-governmental organisations. Loans will still be accepted, but will be assessed on market criteria. The aim, in addition to reducing the government's reliance on aid, is to cut disproportionately high administration costs on small aid budgets—countries like Norway and Sweden, for example, provide only about $10m-15m a year. The losers will be state governments and services like the railways that have been receiving much of the 22 countries' money.

Multilateral agencies such as the World Bank, which provide 60% of India's total aid, are excluded from the changes. So are six bilateral donors that include large payers—Japan with over $900m a year, and Britain with $160m—and diplomatically sensitive countries like the United States and Russia. In the future, these donors might also be asked to switch their focus, but it could be a decade or more before the World Bank and UN agencies are asked to go home.

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Unemployment in China and South Korea

Young, bright and jobless

Jun 19th 2003 | BEIJING AND SEOUL
From The Economist print edition

How two economies are facing the graduate problem

Get article background

AFP

Any graduates needed?

A DECENT education no longer guarantees a job in China. It used to, not all that long ago. As a result of well-meaning reforms four years back, China sought to broaden access to higher education. This, it was claimed, would improve the quality of the workers, who would earn lots of money and eventually spur domestic consumption. But several promising sectors, notably information technology and telecoms, have slumped.

Tourism, transport and catering are struggling with the impact of the respiratory disease, SARS. As a result of SARS, the projected urban unemployment rate for this year has risen by 0.1% to 4.5%. China's leaders could well be fretting over just what graduate unemployment, along with disgruntled farmers and hard-hatted workers, might mean for their grip on power.

This summer China will produce its largest ever crop of university graduates: more than 2m, 46% up from last year. An anxious Huang Ju, a member of the Politburo and a vice-premier, said on June 3rd that managing the “perplexing task” of finding jobs for all these graduates will be “crucial to the nation's political stability”. His remarks echoed a warning last month by Wen Jiabao, the prime minister.

Shanghai alone is about to produce 83,000 graduates. So dire are their job prospects that 27,000 of them have applied to take exams for only 2,500 available civil service jobs. In Guangdong, which ranks as one of China's most economically vibrant provinces, 113,000 students will graduate this year, but officials reckon that 50,000 of them will fail to find work. There is similar gloom in north-eastern Heilongjiang province, where the number of new graduates has risen to 100,000, 25% up on last year.

Responding to the problem, China's State Council is proposing tax breaks and bank loans for people who start up businesses of their own. It has also promised to create more government jobs, backing away from a long-running campaign to streamline the bureaucracy. At the same time, the government is calling on graduates to lower their sights and consider taking jobs in rural areas, working in agriculture, health care and poverty relief.

But students want well-paid urban jobs. “People invest huge amounts of time and money to get an education,” says one. “Afterwards, if they have no chance to make a return on that investment, it is only natural for them to feel dissatisfied. That can't be good for society.”

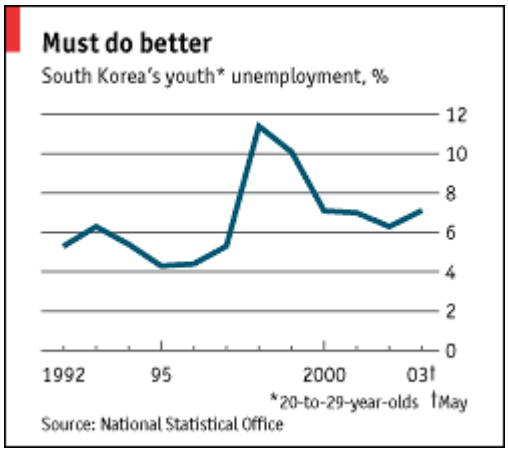
Xu Tian, newly graduated from Beijing University, says most of his classmates would choose to move back home with their parents rather than take a job in the countryside. He used his degree in French to get a job in Beijing with a foreign trade-promotion agency. It was his first application for a job. He was lucky, he says. These days in China as well as a degree you need a big slice of luck.

Unlike the Chinese, for whom youth unemployment has come as a sudden shock, South Koreans have experienced it before: in 1998 during the Asian slump the jobless rate soared to 11.4%. Now, as in China, the young and hopeful are being particularly hard hit. Overall, the jobless rate in South Korea climbed to 3.2 % in May, but for those aged 20-29 it was 7.1%. In a survey of 2,688 people who

graduated from four-year colleges in February, only 44% said they were employed.

Multiple factors are contributing to the bleak job market in South Korea, not least the sluggish domestic economy and international worries such as the Iraq war and North Korea's nuclear threats. As in China, SARS is blamed for some job losses.

A recent survey by the Korea Employers' Federation showed that 1,327 corporations with more than 100 employees were planning to slash hiring by 30% this year, compared with last year.



Also making life difficult for job-seeking youths are the changing recruiting practices of some companies. Rather than taking groups of graduates fresh out of college, companies are hiring according to need and prefer experienced workers or graduates with business and economics diplomas.

The alarmed South Korean government decided in May to double its supplementary budget for creating jobs, up from the 238 billion won ($196m) to 500 billion won. The labour ministry ran a jobs fair on June 16th, where IT firms together recruited some 100 graduates.

Many foreign companies in South Korea are helping the young jobless. Some take on interns who will be considered for permanent jobs. British American Tobacco Korea is paying for six Korean students to study in Europe. The Europe-Korea Foundation, a charity, is sending another five, sponsored by Samsung Tesco, Wellvis, Evian and others. The aim is to find graduates who show promise and train them as future business leaders.

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China

Rewriting history

Jun 19th 2003 | BEIJING
From The Economist print edition

The small screen is a dangerous weapon

A 59-PART historical drama, “Advance toward the Republic”, seems to have touched a raw nerve in China. Though it deals with events around a century ago, the censors hacked at it and have now blocked plans to show a repeat.

Part of what makes this melodrama remarkable is its portrayal of some of the era's great figures. In communist histories, the empress dowager Ci Xi, who ruled from behind the scenes for nearly half a century until 1908, is a power-crazed villain who ran China to ruin. The series portrays her more sympathetically, as out of touch but nonetheless a patriot. Li Hongzhang, a diplomat whose name in China today is synonymous with lily-livered capitulation to foreigners, becomes a man who rightly saw the need for a nation crippled by tradition to learn from the West.

The biggest excision occurs in the final episode, which ended up only half of its original 50-minute length. Gone, unsurprisingly, was most of a speech by Sun Yat-sen, in which the revolutionary lamented the suppression of democracy by the country's post-imperial rulers.

Some Chinese compare this controversy with the debate aroused by “River Elegy”, a series broadcast 15 years ago that outraged conservatives with its critique of the failings of Chinese culture. It stoked the intellectual ferment that led to the Tiananmen movement of 1989. Chinese leaders, it seems, are not about to fall into that trap again.

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Politics

Tony fixes the constitution

Jun 19th 2003
From The Economist print edition

Half-baked changes to the cabinet and the constitution have done Tony Blair some harm and the country not much good

Get article background

NOT since Harold Macmillan's night of the long knives 40 years ago in which he sacked nearly half his cabinet has a reshuffle been such a spectacular disaster. Tony Blair, summoned to the Commons this week, did his best to defend himself. But not even his considerable parliamentary skills could hide the fact that the exercise, meant to bolster his government by modernising it, had been a shambles.

Taken on their own, the constitutional reforms were not especially contentious. Sensible people have long been arguing for getting rid of the Lord Chancellor's job, on the grounds that the top law officer's position as a cabinet minister and head of the House of Lords as well as the judiciary undermines the idea of judicial independence. For the same reason, extracting the country's top judges from the House of Lords and setting them up in a Supreme Court seems a good idea. And, since Scotland and Wales got their own parliaments, the government jobs looking after them have needed downgrading.

But when Downing Street announced that Lord Falconer, an old legal chum of the prime minister's, would take over as the new secretary for constitutional affairs, it said he would not act as either Lord Chancellor or speaker of the House of Lords. That position had to be changed once the government worked out that it could not abolish the Lord Chancellor's job overnight: the House of Lords is not allowed to sit without him. There was similar confusion over the role of the new part-time Scottish and Welsh secretaries, Alistair Darling and Peter Hain. Five days after the reshuffle, the prime minister's office was still unable to give the parliamentary authorities a list of the new government.

How did this happen? Partly, quite simply, because the changes were not thought through. The Cabinet Office has recently lost many of its specialists in the machinery of government. But a row between the home secretary, David Blunkett, and the Lord Chancellor, Lord Irvine, also got in the way. They have been battling over responsibility for the administration of justice. Lord Irvine wanted his protégé, the prime minister, to create a department responsible for the administration of both criminal and civil law. Mr Blunkett vetoed this plan.

The government is wincing at the unnecessary trouble it has caused itself. But the real damage lies in the failure to sort out a nonsense that makes the legal system work far worse than it should: the continuing division of responsibilities between the new Department for Constitutional Affairs and the Home Office. The former is responsible for civil law reform, the court system, including the criminal courts, legal aid and civil law but not criminal law. The latter is responsible for criminal law. This division is damaging in several ways.

The Home Office, whose ragbag of responsibilities ranges from crime and the police to immigration, race relations, and gambling, is essentially a ministry of the interior. But its responsibility for criminal law gives it an interest in what the judges are up to—and an inclination to undermine their independence. The battle between Mr Blunkett and the judges over sentencing policy illustrates this tension most sharply. Mr Blunkett has set down guidelines for minimum sentences for murder—a big issue in the popular press—twice as long as those the Lord Chief Justice, Lord Woolf, wants. Tension between the judges and the home secretary has reached such a stage that Lord Woolf has referred to a breakdown of trust.

Another consequence of the division of responsibilities is that the law is a mess, and the Home Office has no interest in reforming it. The Law Commission, which reports to the Home Office, produces endless

reports on codifying centuries'-worth of laws, but home secretaries are not interested. This has practical consequences. Policemen charging offenders for actual, serious or grievous bodily harm, or a wide range of other possible offences to do with wounding people, often get it wrong and thereby mess up the case. The government has increased the confusion by passing more than a dozen criminal justice acts. A ministry of justice would be more interested in getting the system to work properly than in getting headlines.

Another concern left in the wake of the reshuffle, and sharpened by Mr Blunkett's attitude, is whether the new system of appointing judges will protect the independence of the judiciary. In his letter of resignation, Lord Irvine called on the prime minister to reaffirm the guarantee of independence in forthcoming legislation. Lord Falconer, the new secretary for constitutional affairs, says the government will consult over the next two months on the way ahead. The outcome is likely to be a judicial appointments panel, headed by the Lord Chief Justice, which will make recommendations to the government.

Justice, a legal pressure group, has called for an advisory commission, which it suggests should submit three names for all senior judicial appointments, ranked in order of preference. The secretary for constitutional affairs could then pick any one of the three names on the list. Justice says it is worth thinking about parliamentary scrutiny of the recommendations, on the grounds that such hearings might defuse tensions between ministers and the judiciary, and also help produce a judiciary that is a little more representative of society. As the current English judiciary is 90% male, 90% educated at Oxford or Cambridge and 87% from public schools, there is room for change.

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Education economics

Money back

Jun 19th 2003
From The Economist print edition

University education may be a waste of time and money for many

Get article background

THERE are two main parts to the government's higher education policy—to get people to pay more of the costs of their university education, and to get more people to go there. New figures suggest that the second part of the policy may be undermining the first.

Behind the government's conviction that people should borrow money to cover the costs of their higher education and pay it back when they are gainfully employed is the assumption that graduates earn much more than non-graduates. But the latest edition of an annual survey by High Fliers Research, a consultancy, of 15,000 students graduating this summer from the country's top 30 universities, shows that starting salaries, having risen for the past decade, are now falling. The typical starting salary expected has dropped from £18,700 in 2002 to £18,500 ($31,000) this year. That is barely above the £15,000 minimum for repaying a student loan. Confidence in finding a job is also lower. Whereas 42% of finalists in 2000 expected a “proper” (ie, graduate) job on graduation, the proportion has fallen steadily since then, to 37% now.

That chimes with some more data, this time from the government's own Higher Education Statistics Agency, which has been following the fortunes of 242,500 graduates from 2002. More than a third of those either could not find a job at all, or had to settle for a low-skilled one, such as sales assistant or clerk. Furthermore, a new survey of 2,000 students and graduates by doctorjob.com, a recruitment website, showed a quarter thought their degree had not equipped them for the job market. Some 40% thought their degree was more or less a waste of time, money and effort.

Most ominous of all is some startling recent research in *Labour Market Trends*, a government publication, looking at the variation in earnings of students who left school with good examination results (meaning two or more A-levels). Those with degrees in subjects like law, maths and economics can expect earnings around 25% higher than average. But returns on other subjects are sharply lower. Social studies brings a 10% premium. Education and languages may have returns close to zero. On average, arts degrees show a negative return. In other words, those graduates earned less than if they hadn't done their degree at all.

It may be that demand for graduates has slumped temporarily because the economy slowed a couple of years ago. In the past, financial returns to higher education overall have been very high in Britain; the government also likes to point to international studies that link extra years spent in education to higher economic growth.

But it seems likely that government policy, which has pushed up the proportion of youngsters going to university by nearly a quarter over the past ten years, and plans to increase it from its current 43% to 50% by 2010, has also had an effect. By all accounts, the quality of university education has fallen as the government has pushed more youngsters through the system without a commensurate increase in funding. And the price of most things tends to fall as quantity increases. It would be surprising if that did not apply to graduates.

At present, students leave university with debts of around £12,000. If the government succeeds in pushing higher tuition fees through Parliament, that could rise to £27,000. But if returns to higher education go on falling as the price rises, will people want more of it or less?

At present, they seem to want more. This year a record 24% of graduates expect to go on to

postgraduate study. Some may think a master's degree offers so much more than a dumbed-down undergraduate degree. More likely is that it sends a powerful extra signal to employers. Extra education is a useful filter: those that complete it show employers both that they had the brains to get in, and the grit to finish.

But in the longer term, students and their parents are likely to think a lot harder about whether to study full time or part-time, how long for, in what subject and where. When three years of full-time higher education at the age of 18 was free, good and rare, the returns to almost any course were unsurprisingly juicy. Now higher education has become costlier, worse and commonplace, consumers are likely to get choosier about it.

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County-cricket finance

Adapt or die

Jun 19th 2003 | SOUTHAMPTON
From The Economist print edition

A new version of the game and new management can save the old clubs

IT'S a great county for cricket, Hampshire. Within it lies Broadhalfpenny Down, scene of legendary matches in the 18th century. Today some 170 local clubs play in sundry leagues. A mighty pull from a future captain of the county side once nearly decapitated your then schoolboy reporter, fielding at very silly short-leg. Even better, that side has a fine new multi-use stadium, sited and designed for the 21st century. For without such venues, and fresh, crowd-pulling, television-friendly versions of the game, like the Twenty20 competition inaugurated a week ago, to help fill them, county cricket will collapse.

The 18 first-class county clubs are the backbone of English cricket, but also, financially, its slipped disc. Players for cricket's five-day international "test" matches learn their craft in four-day inter-county games—and how many people nowadays have the enthusiasm or time for a drawn-out, often mediocre, spectacle like that? Typically, 500-1,000 oldies a day.

No wonder cricket is the poor relation of team sports. Even London-based Surrey gets under £1m ($1.7m) a year from members' subscriptions and ticket sales together, and the average is under half that. Sponsors add £300,000 or so. Even with the £1.3m that each gets from the England and Wales Cricket Board (ECB), the typical county club grosses only £2m-3m a year. Without it, all would be bust.

It's a struggle

County clubs' finances, 2002 season*, £'000

Club	Income†	Surplus/deficit
Lancashire	5,366	398
Surrey	6,386	216
Derbyshire	2,088	158
Middlesex	2,280	152
Somerset	2,544	58
Nottinghamshire	3,669	55
Kent	2,894	21
Leicestershire	2,000	-11
Sussex	2,477	-13
Durham	3,009	-20
Worcestershire	2,446	-41
Gloucestershire	2,688	-42
Northamptonshire	2,416	-82
Glamorgan	2,133	-193
Essex	2,417	-380
Warwickshire	4,372	-383
Yorkshire	2,582	-1,292
Hampshire	2,557	-3,323‡

*Various year ends †Some clubs 'net out' receipts from international games ‡Due notably to shift of venue

Source: Counties, as reported to ECB

So they penny-pinch, unlike football clubs: the dozen stars on ECB contracts earn £230,000 a year or so, but a county journeyman only £40,000-plus—three days' wages for football's David Beckham. Last year, playing-staff costs ran only from Durham's £840,000 to Surrey's £1.34m. Even so, 11 of the 18 posted a loss; £1.29m at Yorkshire, the most famous of the lot. Nor is their central subsidy secure: 85% of the ECB's £67m income comes from broadcasting and sponsorship, and these will not go on paying if audiences grow even thinner.

Solution: enliven the game. The first big step, taken in the 1960s, was to supplement the long game with one-day cricket—which, after all, is what all cricket once was, and village or school cricket still is. Reborn, at 65 overs for each side, now shortened to 50 or 45, this saved the counties. Here, instead of the drawn game that standard county cricket often peters out into, was a run-chase and a guaranteed result; a spectacle that even baseball-lovers could recognise as such. Often it draws as big a gate in one day as a four-day game in four.

Even so, a day is a full day. So this season, goodbye to the decades-old Benson & Hedges one-day contest, enter the ECB's Twenty20 Cup: similar league-cum-knockout format, but (except on the day of the final) in the evening, and just 20 overs, within 75 minutes, for each side. And lots of razzmatazz: bursts of music for each boundary or fall of wicket, and whatever else the home club fancies—Hampshire, launching the contest at their Rose Bowl stadium, added a post-match pop concert.

A rowdy, gimmicky, unsubtle slogfest, lamented a few greyheads, as their fathers did when one-day games began. And so it turned out. But that was just the point: the ECB hopes to win a new, younger

audience for cricket. It seems to be working. Novelty, balmy sun and a Friday evening brought 9,000 to the Rose Bowl, and over 30,000 in all to the five games on June 13th; five on sunny but less-festive Monday drew 22,000—no huge figures, but well over double those for the last Benson & Hedges games between the same teams.

There is a wider lesson: not just a new product but modern management. Hampshire since March 2002 is not a club but the cricket flagship of a company, Rose Bowl plc, running an up-to-the-minute leisure venue: 150 out-of-town acres, stadium, ample parking, cricket, 9-hole golf, fitness club, conferences, catering, pop and classical concerts and more. The move in 2001 from a cramped site inside Southampton and £22m so far spent on development, pushed the club, despite £7m of national-lottery money, almost to the wall. This year the company hopes for break-even on a turnover up by maybe half to £6.7m.

Durham, the one other county with a really modern stadium (cost: £12m so far, and more to come), is run as a company limited by guarantee, in the same businesslike spirit. Old buffers may miss the days of the deckchair and the club committee. But surprisingly few even of them deny that if country cricket is to survive, this is the way it must go.

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Regional assemblies

Testing times for regional assemblies

Jun 19th 2003
From The Economist print edition

How to judge the government's new devolution scheme

Get article background

THE government's other constitutional coup in the past week was more decorously delivered. John Prescott, the deputy prime minister, announced that England would follow in the steps of Scotland and Wales: referendums are to be held in 2004 in the north-east, the north-west and Yorkshire and the Humber on whether people want elected regional assemblies. In the spirit of current government thinking, *The Economist* has applied five tests to the plan to determine whether Britain should sign up for this scheme.

• **Is Whitehall devolving real financial power?** The assemblies would get minimal tax-raising powers, and not much spending either. They would take charge of the regional economic development agencies (RDAs), and spending on housing, art, sport and tourism. Whitehall would keep hold of the big services—health, education, law and order. On 2000-01 figures, the north-east assembly's budget would be £350m—5% of total regional public spending. Fail.

• **How much autonomy will the assemblies have?** Not a lot. Assemblies will be expected to meet up to ten targets (with rewards of more money if they exceed them). Ministers will also retain the power to veto regional economic strategies—supposedly the assemblies' key policy document. Fail.

• **Will assemblies improve public services?** Hardly, since they have no control over the cash for most of them. Housing, which councils and Whitehall fight over, should work better if it is managed by one body. Fail.

• **Will assemblies improve regional economic performance?** Mr Prescott says they will, though it is hard to see how. The government's main tool for spending money on regional job-creation, the RDAs, will be put under new management, but will otherwise be unchanged. How much they have done for regional development is anyway in doubt. A report this week by the National Audit Office said the government had greatly exaggerated the number of jobs that subsidies have created. Fail.

• **Will democracy improve?** The assemblies will be elected by proportional representation, which should let in some independent voices. That has put some Labour MPs off the whole idea, and argues in its favour. Pass.

Regional assemblies, like the euro, fail four tests—though, if Mr Prescott strengthens their role when he publishes his draft bill, that could change. But as they stand, the answer is: no, thanks.

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Public services

Denationalising pay

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Plans to vary wages by region will encounter fierce union opposition

GORDON BROWN insisted this week on the need for a more flexible labour market if Britain is to join the euro. The more readily that wages adjust to changes in demand, the more the economy will be able to cope without its own currency to act as a shock-absorber. Addressing the City's bankers in his annual Mansion House speech on June 18th, the chancellor of the exchequer called for “radical reforms” at a national, regional and local level to achieve greater flexibility.

Prominent among these reforms is a plan to make public-sector pay more responsive to regional and local conditions—in effect to denationalise public pay awards. The proposal makes sense not just in preparing to join the euro. It should also get better value for money in public spending and help to tackle the chronic shortages of staff in and around London.

In the private sector, pay varies quite a bit across the country in response to local and regional labour-market conditions. In contrast, pay rates in the public sector are more uniform. Public-sector workers—over 60% of whom are women—are thus overpaid in much of the country but underpaid in and around London.

Men working in the public sector earn on average about 10% more than those in the private sector if they live outside London and the south-east. Women working for the government in the regions do even better, earning 25% more than those in the private sector. In and around London, the position is reversed. Male employees in the public sector earn appreciably less than those in the private sector and women about the same.

About three-quarters of all public-sector workers live outside London and the south-east. So paying them the regional rather than the national rate could generate the resources to pay the higher wages needed in the south of England to recruit and retain staff. That would probably still leave the chancellor with a tidy saving out of the total £100 billion public-sector pay bill.

The government is not seeking to introduce regional bargaining. But it does want public-sector pay to reflect regional conditions to a much greater extent. Mr Brown's codeword for reform is “a stronger local and regional dimension” in setting pay for public-sector workers. The Treasury is planning to publish regional price and inflation figures to guide pay awards.

All well and good; but is the government really prepared to do battle with the unions over this? It is no accident that public-sector pay structures are so rigid. Three-fifths of government workers belong to a union compared with a fifth of private-sector employees. Powerful public-sector unions have succeeded in reaching national pay awards that minimise regional pay differentials and exploit London's special circumstances to drive up national wages.

The unions appear to be in no mood for compromise on anything, let alone this provocative reform proposal. Dave Prentis, general secretary of UNISON, Britain's biggest union, mocked “Tory” Blair this week. Speaking at the union's annual conference, he gave warning of possible co-ordinated strikes over pay in local government, the health service and schools. UNISON has already made clear that it will

oppose attempts to move towards regionally determined pay.

The government has backed down before from painful confrontation with the unions. This spring, for example, it caved in to their demand to end the “two-tier” workforce in local-government services provided by private companies. Ministers will have to show more resolve if public-sector pay is to vary more by region.

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Privacy law

Gotcha!

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Britain is getting a privacy law, one way or another

THIS week a parliamentary committee called for a privacy law, and for a beefed up Press Complaints Commission (PCC), with the right to levy fines and vet stories before publication. Not much is likely to come of this. MPs have fulminated against the excesses of the tabloid press before. They know that voters disapprove of these newspapers at the same time as buying them.

But even if Britain does not get a privacy law from Parliament, it is getting one from the courts. Sara Cox, a radio presenter, has won £50,000 in an out-of-court settlement from the tabloid *Sunday People*, which had printed nude pictures taken during her honeymoon. That will encourage a clutch of other celebrities seeking redress for similar intrusions, including Naomi Campbell, a model, and Sadie Frost, an actress. Quite where this will lead is unclear. Until the legal system digests the European Convention on Human Rights, which enshrines new and contradictory rights to both press freedom and privacy, the only certainty is change.

And most people (outside the press) think change is necessary. Even diehard defenders of press freedom think that the *Sunday People* overstepped the mark. The snaps may not have ruined the honeymoon quite as utterly as Ms Cox maintains, but she was on a private beach attached to a remote villa on a distant island—the sort of place where even a celebrity might reasonably expect to frolic unobserved. Certainly the voluntary code of practice that all British editors claim to abide by states that photographers may not take pictures of people in private places without their consent.

Defenders of the status quo (the press) argue that, as courts start developing privacy law, the real beneficiaries will be the powerful but sleazy. This week the *Daily Mail* published a sulphurous article listing prime ministerial friendships with dodgy tycoons. These, it said, might never have been uncovered had a privacy law been in force. Following the MPs' recommendations, it fumed, “would reduce the British press to the poodle status of newspapers in France, where there are strict privacy laws and political corruption is rampant”.

The weakness of this case lies in the feebleness of the PCC. This watchdog aims to conciliate—typically by persuading errant newspapers to publish apologies. It did get the *Sunday People* to print a tiny apology to Ms Cox (although she sued anyway). Editors and journalists do worry about its disapproval, and it has probably prevented repeat offences of some of the worst practices of past years. But the public sees it as bureaucratic, toothless and dominated by serving editors. Many people who feel traduced by the press do not find it worthwhile even to bother to complain to it.

The PCC's newly appointed chief, Sir Christopher Meyer, Britain's former ambassador to Washington, is a strong supporter of self-regulation. Unsurprisingly, he and his lovely wife have received generous and appreciative coverage.

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Female bishops

Gender bending

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Gay priests will not divide the church. Female bishops might

FOR an organisation not commonly thought of as particularly hot on sex, the Church of England takes a remarkably keen interest in this area of life. This week, a quarrel broke out over the appointment of Jeffrey John as suffragan bishop of Reading, with opponents (including nine bishops) claiming that the incumbent's homosexual history rendered him unfit for office. As is customary, the fight was played out in full public view, with a flurry of intemperate letters and front-page stories in the newspapers.

PA

Sorting the rams from the ewes

This was hard enough for Rowan Williams, the Archbishop of Canterbury, who is known to hold liberal views on gay priests. But a much more difficult struggle over women bishops looms. The Scottish Episcopal Church approved them on June 12th; which, given that there are female Anglican bishops in America, Canada and New Zealand, makes the Church of England look anomalous.

The debate over female priests, unlike that over gays, cannot be fudged with distinctions between “practising” and “non-practising” folk. And the stained glass ceiling has two formidable defenders: conservative Evangelicals, who are already upset about gay clergy, and Anglo-Catholics, who are not (one leading advocate of women bishops refers to them, perhaps unchristianly, as “queens who don't want competition from real women”).

The battle over female bishops will be the worse because of compromises that were made ten years ago. When the priesthood was first opened to women, in 1992, the General Synod of the Church of England tried to appease opponents by paying off distressed priests and allowing parishes to reject female appointments. A year later, it allowed them to cut ties with bishops who had appointed women elsewhere. Such parishes (there are now 350) were placed under the care of ecclesiastical visitors, or “flying bishops”.

The compromise held the Church of England together. But it was expensive—£19.1m has so far been paid out to disgruntled clergy—and it allowed opponents of women priests to put down roots in the parishes. Forward in Faith, an international pressure group that represents parishes opposed to the ordination of women, has become increasingly assertive in recent years. It is now calling for the setting up of a “free province” within the Church of England, and claims that 500 parishes will sign up (even opponents concede that several hundred are likely to go). As for conservative Evangelicals, they are threatening an outright departure from the Anglican communion.

The Church of England is likely to get female bishops, and it is unlikely to split. If it is good at one thing, it is holding itself together. But any reorganisation would be ugly, from a financial as well as an

ecclesiastical perspective. Finances would have to be disentangled, since Anglo-Catholics and conservative Evangelicals both plan on taking church property with them. In the latter case, the loss of famously open-handed parishes would be painful.

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Bagehot

Tiredness kills

Jun 19th 2003
From The Economist print edition

When fatigue sets in, governments fail. It's started to happen to Tony Blair

Get article background

GOVERNMENTS should fear weariness above all. Once it sets in, it is hard to dispel and almost invariably presages decline and eventual defeat. After the past week, it's hard not to conclude that this is now a weary government.

Weariness can take many forms. It has little to do with how long a government has been in office. The 1945-51 Labour government of Clement Attlee was weary long before it left office. Partly this was the result of the physical exhaustion of many of its leading lights, who had also served in the wartime coalition. But it was also a government that had simply run out of steam having done most of the things it had set out to do.

The Wilson-Callaghan Labour government of 1974-79 seemed weary almost from the outset. Hobbled by political and financial weakness, it was as if it knew it had no answer to Britain's deep-seated economic problems. Although Margaret Thatcher never succumbed to weariness, her colleagues certainly wearied of her. Much of what vigour they had left after 12 years in government from 1979 was expended in the emotional effort of getting rid of her: the government of John Major, as his sacked chancellor, Norman Lamont, subsequently observed, was “in office but not in power”.

Tony Blair no longer has the drained, haggard appearance that he acquired in the weeks leading up to the Iraq war. In the House of Commons, he is rarely under pressure, thanks to the reliable cackhandedness of Iain Duncan Smith, the Tory leader. This week, when Mr Duncan Smith appeared to have an open goal after Mr Blair's shambles of a ministerial reshuffle, he missed again. But there are signs of a deeper fatigue.

The reshuffle itself is a case in point. It was ludicrous to try to attempt it in the same week that the decision on the euro was announced. The negotiations between the prime minister and the chancellor took so long that they were concluded only at the last moment. The compromise that emerged was sensible, but getting there was fraught and distracting.

At the beginning of the week, Mr Blair was shocked to discover that Alan Milburn, the health secretary, a tough and resourceful ally, wanted to quit the government because the job was destroying his family life. The reshuffle was already looking tricky thanks to the resistance of Lord Irvine, the Lord Chancellor, to losing his powers over appointing judges. Instead of pausing for thought and delaying for a week, all an overloaded Mr Blair could think of was the need to get the job done and move on to the next thing. Tired people make bad decisions, and this was a decision etched with tiredness.

But nothing like so tired as the speech that the prime minister made on June 17th to an audience of party loyalists at the Old Vic theatre—a setting, one might have thought, to bring out the best in the thespian Mr Blair. Downing Street insiders promised a combative prime minister, seizing back the domestic agenda and eager to take on his critics: nothing would divert him from his central task of “transforming” the public services.

However, despite the hyping of the speech, it turned out that Mr Blair had nothing to say that he has not already said a hundred times. No “third way” cliché was too stale to be recycled. Straw men (on the left, unions fighting modernisation; on the right, the Tories intent on privatising everything) were given their usual biffing. Modest or watered down initiatives (city academies, foundation hospitals) were trotted out as demonstrations of the government's unflinching radicalism.

As usual, there was not much wrong with the prime minister's analysis. The old ways of delivering public services meant an absence of choice and a particularly bad deal for the most disadvantaged—before his resignation, Mr Milburn had admitted that in 50 years of the NHS“health inequalities have widened, not narrowed”. And, as Mr Blair has argued umpteen times before, it was not just the inadequate funding of the past that was the problem, but the inability of monopolistic provision to respond to consumer needs. What was missing from Mr Blair was any hint that he had the slightest notion what to do about it.

Running on empty

In a revealing passage of his speech, the prime minister compared the public-sector reforms of the 1980s with those he was attempting. “Privatisation,” he said, “may have been hard to do politically, but it didn't require massive re-engineering of vast organisations with millions of public servants employed in them.” What he still fails to see is that privatisation worked because it changed structures and incentives: it did not require an appeal to hearts and minds. Without real money following patients and pupils, the liberalisation of provision that Mr Blair says he wants will be limited. By talking about “putting in place reforms that will turn round an NHS of 1m employees which sees 1m people every 36 hours”, he shows how confused he is: an NHS of 1m employees is the problem, not the solution.

The huge funding increases now being pumped into the public sector will not be sustainable for many more years. They were meant to lubricate reform, but without any clear vision of what reforms are needed, the opportunity is being squandered.

The fear of failure is starting to wear him down, as are the attritional effects of his relationship with Gordon Brown and, increasingly, the mounting post-Iraq-war recriminations. Nor, amidst all the sound and fury accompanying the reshuffle, should the severe blow to Mr Blair represented by the departure of Mr Milburn be underestimated. He was one of the very few big figures in the government who not only encouraged the prime minister in his more radical instincts, but was also prepared to slug it out with Mr Brown.

Lonely and, it seems, intellectually exhausted, Mr Blair may be starting to run out of time.

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OPINION

Innovation by numbers

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Your suggestions, please, for innovations that have propelled enterprises to the forefront of their fields over the past decade

SOME of the greatest innovations over the past century have sprung from the creative juices of individuals. Where would the world be today without, say, the invention of controllable, powered flight by the Wright brothers, or the discovery of penicillin by Sir Alexander Fleming? But these are exceptions to the rule. The overwhelming majority of successful innovations that people take for granted today have come not from individuals striving heroically in a shed, but from team efforts orchestrated systematically by enterprises. And more than anything, what these corporate intrapreneurs have tended to exploit is not so much invention or discovery, but change.

That change can take many forms. Peter Drucker, the industrial world's most trenchant commentator on innovation and entrepreneurship for the past half century, identifies no less than seven such forms of change, each a source of entrepreneurial opportunity in its own right. The four most important of these changes all reside within the enterprise itself—be that a business, an institution, an industry or a service sector.

The first is the *unexpected* success (or failure) or unexpected outside event. The second is the *incongruity* between what actually happens and what is supposed to happen. The third is the *inadequacy* in an underlying process that is taken for granted. The fourth is changes in industrial and market *structure* that catch everyone by surprise.

The three well-springs of innovation that occur outside the enterprise are changes in *demographics*, changes in *perception*, and finally changes caused by the creation of *new knowledge*. Ironically, of all the various drivers of innovation, the form of change that national governments, development agencies, academics, corporate executives and even venture-capitalists give most attention to is actually the riskiest and toughest to implement successfully—the creation of new knowledge.

Why do they do it? For a variety of reasons: the glamour of an R&D breakthrough, tunnel vision, the gambler's dream of winning the jackpot. Certainly, for the few who get it right, innovations based on the application of new knowledge can have staggering returns. One American study found that the annual

return from 17 successful technological innovations made during the 1970s averaged 56%. That compares with a 16% average return on investment for all of American business in the years since.

Consider Genentech, a biotech firm in Silicon Valley. It has spent 15 years and almost $1 billion in dogged pursuit of a drug for blocking the protein that causes blood vessels to flourish and feed a tumour's uncontrolled growth. But when positive results from trials of Genentech's new colon cancer drug, Avastin, were announced in May, investors swiftly added $15 billion to the firm's market value. That is a measure of the kind of jackpot Genentech could scoop from the new drug before its patents expire.

But to achieve such returns from technological innovations, companies such as Genentech, Intel and Microsoft have to maintain armies of researchers. Experts reckon an enterprise has to start with around 3,000 bright ideas if it is to come up with 100 worthwhile projects, which, in turn, will be winnowed down to four development programmes for new products. And four such development programmes are the minimum needed to stand any chance of getting one winner.

Winners needed

During *The Economist's* first annual Innovation Summit and Awards in San Francisco last September, we celebrated innovations that had not only changed their fields in some significant way, but had also contributed substantially to the employer's bottom line—and, in the process, had created engines of growth that helped spur the economy generally. This year, we will do the same, only more so—looking for innovations that have also helped foster a culture of change within the organisation concerned, making it better at continually reinventing itself and thereby better at replacing ageing revenue streams.

Readers who wish to nominate innovators who have wrought such changes over the past decade can do so at www.economist.com/forums/tq. Nominations for the four categories (biotech, computing, energy/environment, and telecoms) will close on July 5th. The winners will be announced at *The Economist's* second annual Innovation Summit and Awards in San Francisco on September 23rd.

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MONITOR

Coming soon to a laptop near you

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After years of patient development, light-emitting diodes made from plastics rather than semiconductors are poised to take on the venerable liquid-crystal display

DESPITE all the technical advances over the years, the screens on laptop computers, mobile phones and other handheld devices are still pale imitations of the world they seek to portray. Worse, most consume far too much power, are all but unusable in broad daylight, and are too bulky for many applications that engineers have in mind. Later this summer, however, a wholly new type of screen technology, based on the so-called “organic light-emitting diode” (OLED), will become available. If it lives up to expectations, it will solve many of the shortcomings of present displays, and create possibilities for applications that have yet to be imagined.

Thanks to their unique design, OLED screens are brighter, clearer and may ultimately be cheaper to produce than the liquid crystal displays (LCDs) used widely in today's portable devices. Better still, OLEDs can be built on flexible, paper-thin surfaces. The first OLEDs to hit the market this year will be in a digital camera from Kodak. Later in 2003, Sanyo Electric will introduce a series of mobile phones with OLED screens. In the longer term, engineers see OLEDs as the display of choice for everything from flat-panel television sets, laptop computers and car dashboards to electronic paper and video postcards.

More than 70 companies—ranging from the OLED pioneer, Eastman Kodak, to DuPont and eMagin, a small microdisplay company based in New York—are hoping to bring OLED displays to market. Sales of the first generation of OLED displays are expected to be a modest $215m this year. But demand for such screens could reach $3.1 billion by 2009, reckons iSuppli/Stanford Resources, a technology-research company based in El Segundo, California. If such predictions come true, OLEDs will be the most significant advance in display technology since the LCD was developed in the 1960s.

Liquid crystal displays create picture elements (“pixels”) by orienting long, electrically charged molecules into temporary crystals that are aligned in particular directions in order to polarise the light streaming through them. In effect, LCDs act as microscopic shutters—blocking the light for dark spots, or allowing it to pass through for bright spots. Yet everything that makes LCDs such a simple idea also makes them less than ideal. The screen must be lit from behind using a light bright enough to overcome the losses in the glass, the liquid-crystal medium, the matrix of thin-film transistors that flip the pixels on and off, and the colour filters that give the image its composition.

In practice, that means power-draining backlights, complex assemblies and bulky designs. Overall, an LCD is only 10-15% efficient at converting energy from its power source into a readable image. In a

laptop, the screen hogs the bulk of the battery power available.

This is where OLEDs win hands down. Instead of using millions of crystal shutters to block light, OLED screens have millions of minute light sources that form the individual pixels. Since they emit light on their own, OLEDs do not need backlights—substantially reducing the amount of energy they consume and simplifying the fabrication process. They need a fairly low voltage, making them better suited to such devices as mobile phones. In theory at least, the screens have far fewer components and may eventually be cheaper to produce than LCD screens.

There is actually nothing new about light-emitting diodes. They were used in early calculators and digital watches in the 1970s, and they continue to be used widely as indicator lights in electrical appliances. The problem in the past was that, because the diodes were made from costly semiconductors such as gallium arsenide and gallium nitride, they were not only tricky but also expensive to bunch up into high-resolution displays.

By contrast, OLED displays use new kinds of semiconducting compounds called “conjugated polymers”. When they are sandwiched between negative and positive electrodes, they produce visible light efficiently. By their nature, a wide variety of the compounds can be synthesised to deliver all manner of properties, colours and effects. Meanwhile, fabricating the screens promises to be relatively simple: they can be screen-printed, contact-printed, inkjet-printed, or spin-coated on to glass or plastic substrates. It takes only about five to ten volts to drive enough current through an organic semiconductor to create a bright glow, easing the design of the arrays significantly.

Most OLED developers have followed Kodak's early footsteps, designing screens that use small organic molecules deposited in a dust-free vacuum. In recent years, however, significant work has also gone into polymer-based OLEDs, which are easier to deposit and work at even lower voltages.

Dreams and reality

For all their promise, OLEDs have far to go before they can usurp LCDs. Though low power consumption is their main advantage, early OLEDs are still only 30% efficient. That is a lot better than LCDs, but not yet enough to justify the switch. And despite the lure of crisp, clean hues, a major stumbling-block in developing colour OLEDs has been finding the right combination of red, green and blue light-emitting diodes with a long, stable life.

Yet advances continue apace. In December 2002, researchers at the Massachusetts Institute of Technology produced a light-emitting diode that combined organic materials with high-performing inorganic nanocrystals. This hybrid optoelectronic device produces 25 times the brightness of a conventional OLED, and yields far higher colour saturation to boot. Depending on their size,the resulting hybrid diodes can be “tuned” to emit any colour in the rainbow. This particular MIT innovation could be the crucial advance for OLED screens in general.

Ultimately, of course, researchers want to build OLEDs on flexible polymer substrates, so they can change the way that displays are used. The resulting screens would be thin, flexible and capable of being moulded into practically any form desired.

What is stopping them? In a word, substrates. A lot more work is needed to make the substrates flexible, durable and able to keep the display components sealed away from the environment. That is going to take another three or four years of development. But once it has been done, watch out for all manner of previously unimagined gadgets. The long-mooted “paperless office” could, at last, become a reality.

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MONITOR

Feeling the danger

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Coatings made from a new class of nanomaterials can detect when their underlying structures are about to fail and cause an accident

ALCHEMISTS of the 16th century wielded considerable influence with their metallurgical concoctions—impressing knights, lords and even kings. But the alchemists had to tread carefully between applause as wizards on the one hand, and accusations of witchcraft on the other. Fortunately, nanotechnologists today do not have to tiptoe around so much. But what has not changed over the past 500 years is the way some of their concoctions are generating similar exclamations of awe.

One stunning new family of nanostructured materials goes by the name of Quasam. This is claimed to be a wholly new class of materials, alongside plastics, ceramics and metals, that is as strong as steel but as light as bone. Unlike other materials, this self-organised hybrid based on carbon nanotubes (thin sheets of carbon atoms rolled up into microscopic cylinders) is ideally suited as a chemical- and abrasion-resistant coating for spacecraft or as hip prostheses in the body. It could even be used as a de-icing coating for aircraft wings.

More intriguing still, Quasam is also a “low-k dielectric”—making it (like a vacuum or dry air) good at storing electrostatic fields. Low-k materials are prized because they make effective capacitors for semiconductor devices. Another attribute of Quasam is that it is thermally stable, even at temperatures above 900°C where exotic ceramics normally rule.

What has caught the imagination of researchers is the possibility of using Quasam's special properties to act as a kind of “smart skin”—to provide an early warning should an underlying structure be damaged. Benjamin Dorfman, chief scientist and founder of Atomic-Scale Design (ASD), a 12-year-old research company in San Francisco, reckons that a Quasam coating on an aircraft wing, oil pipeline, bridge or re-entry vehicle such as the space shuttle could provide a handy way of detecting the build-up of stresses in components long before they failed and caused a catastrophe.

After spending 30 years researching carbon materials in the former Soviet Union, Dr Dorfman took his work to America in 1991. With an R&D agreement from Brookhaven National Laboratory on Long Island, he founded ASD to continue work on hybrid forms of carbon.

In essence, Quasam can be thought of as a carbon nanotube that has been sliced open and laid flat. The result is multiple layers of graphene sheets, measuring five nanometres (millionths of a metre) long and two nanometres wide. The properties of such sheets can be adjusted to create a smart skin with conductivity, hardness or thermal resistance that varies across the thickness of the coating—making them ideal for miniature sensors.

Because smart skins are grown by depositing layer upon layer, the base coating can be used as a foundation for adding other ingredients to tailor the material's properties for specific purposes. For instance, the ultra-thin layers of graphene (a two-dimensional form of graphite) are formed by injecting liquid solutions containing carbon and silicon into an extremely hot, ionised gas (plasma) of argon. The hot gas breaks up the reactants into atoms of carbon, hydrogen, silicon and oxygen. If metals or non-metals are added to the plasma at this stage, the coating can be made to act like a metallic or non-metallic compound—or anything in between.

So far, ASD has financed itself from licensing fees while building up its store of intellectual property. All told, the company now has six patents for Quasam, plus a dozen more in the pipeline. Now comes the hard part. Getting new materials integrated into manufacturing processes is never easy and is not going to happen overnight. It took carbon fibre a quarter of a century to go from laboratory curiosity to

engineering material. But with all the hype surrounding nanotech materials today, Quasam ought to do a little better than that.

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MONITOR

Storing e-text for centuries

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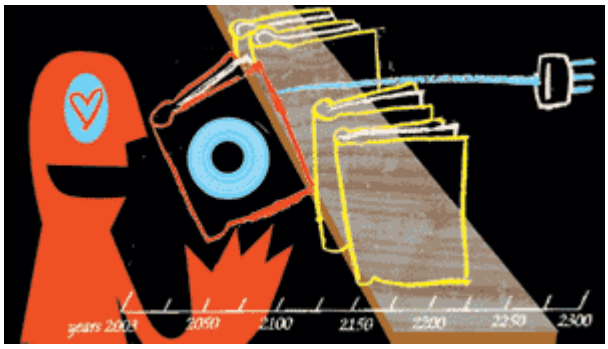

Digital preservation means a whole lot more than merely making lots of back-up copies

FOR all its woes, nowhere beats Silicon Valley for finding the next big thing in information technology. Unfortunately, the region's entrepreneurs and engineers often fail to take into account how well their inventions mesh with social institutions. Vicky Reich and David Rosenthal, respectively a librarian and a researcher at Stanford University, are exceptions. Rather than invent a better mousetrap, they are using existing technology to imitate an important function of libraries. They want to ensure that readers will still be able to access electronic academic journals even centuries after they have been published.

Their project, called LOCKSS (short for “lots of copies keep stuff safe”), addresses a vexing problem that librarians face everywhere. Increasingly, academic journals are published online; many are not even available in print. As a result, libraries are losing the option of maintaining local collections—but are leery of discontinuing paper subscriptions.

That makes them sound like Luddites stuck in a world of paper. After all, they could make digital back-ups. What is more, publishers often grant perpetual access to their journals and provide subscribers with CD-ROM versions. As a last resort, there is always the Library of Congress in America and other national libraries around the world where copies of most publications are kept.

In the very long run, however, such solutions are not all that viable. Making back-ups is cumbersome, costly and time-consuming. Besides, magnetic media—whether on tape, hard-drive or CD-ROM—deteriorate within decades. And online storage can be even shorter-lived when archives become the victim of budget cuts or bankruptcy.

To solve this digital dilemma, Ms Reich and Mr Rosenthal have looked long and hard at what the great libraries of the world have done over the millennia. First, they acquire copies and make them available to their local readers, while seeking to preserve them to the best of their ability. But if copies get lost or destroyed, they also lend them to each other. It is these circulating collections—which in effect form a peer-to-peer network with no central authority—that LOCKSS seeks to mimic.

It works by getting libraries to install a piece of software on a PC with a large hard disk, turning it into a cache for web pages. The program then pulls down the content of various journals that the library in question has subscribed to. If the system detects that one of its copies is damaged or missing, it asks the original publisher, or the cache of another library, to send it a fresh copy.

But who decides which copy is the correct one? For this purpose, LOCKSS simulates another well-proven institution: election. The caches regularly vote on material by broadcasting digests (values unique to a given file) and comparing them. A copy wins if the majority of voting caches bears its digest. The caches

on the losing side discard their copies and fetch new ones.

Such polling makes it difficult to trick the system. To change an article deliberately, attackers would have to subvert the majority of the caches and do so for a long time. The architecture also makes it unlikely that the system will become obsolete. If a cache runs out of storage space, for instance, libraries simply boot up a new PC with a larger hard disk, which will then automatically fetch the material from other caches. And because the LOCKSS software is “open source”, it is free to evolve over the years as the technology changes.

Despite its complexities, LOCKSS, which is supported by the National Science Foundation, the Andrew W. Mellon Foundation, Sun Microsystems and others, has shown that it works. A prototype version was installed at some 80 libraries worldwide to test the concept under real conditions.

Lots of teething problems remain. But the biggest challenges may be economic rather than technical. Some publishers, in particular the more commercial ones, are none too keen on having their content cached elsewhere, although most of their concerns have been dealt with: LOCKSS does not allow libraries to cache journals they have not subscribed to. Also, it returns the responsibility for long-term preservation and its costs to the libraries.

More importantly, starting in 2004, the project will need to stand on its own financial feet. And that can only mean one thing: libraries and perhaps publishers, too, will have to make a contribution. Ms Reich is currently putting together an organisation, which will be called LOCKSS Alliance, whose mission will be, among other things, to maintain the software, and ensure that there are a sufficient number of caches.

The medieval monks never had such problems. But then they were mostly publishers, copymakers and librarians all rolled into one.

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MONITOR

Bite out of breast cancer

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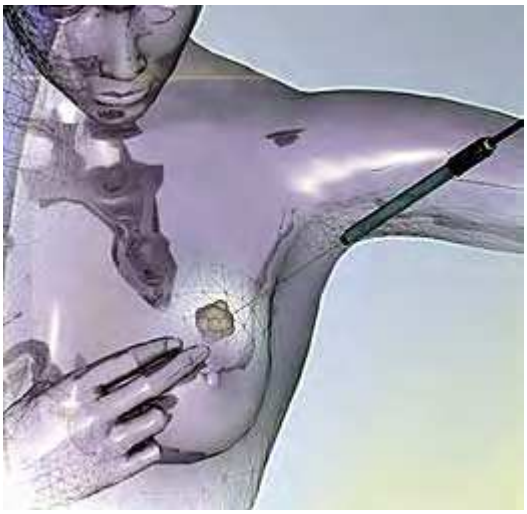
A probe based on technology developed for the Mars mission promises to be the biggest boon yet in checking for breast cancer



Less than a pin prick

AS IF the worry over a potential breast cancer were not bad enough, a woman can only find out more by having a surgeon insert a thick needle in her breast to suck out a hunk of tissue the size of a golf ball. She must then wait for a week while tests are run on the tissue. This procedure happens 20,000 times a week in the United States alone, and some 85% of those tests yield the happy news that there is no cancer. Perhaps giving up a hunk of flesh and spending a week biting nails is an acceptable trade-off for the women and their families, but what if a better way existed? A potential one happens to be in tests right now.

The source of relief seems unlikely. In borrowed office space among a warren of shopping centres that is Dublin, California, a small start-up called BioLuminate is struggling to change things. The firm's experimental Smart Probe, based on technology developed in three national laboratories in America, with the main patent coming from NASA's Ames Research Centre near Sunnyvale, California, could revolutionise the process of testing for breast cancers—making it possible one day to check for malignancy while sitting in a doctor's office.

BioLuminate's probe uses the same basic technology as the probe NASA developed for its Mars lander. The company then adds multiple optical and electrical diagnostics tools to a 20-gauge disposable needle—smaller than the needle used for standard blood tests, and much smaller than the core needles currently used for biopsies. Among the data-collection methods are blue lasers, which reveal the fluorescence common to cancer cells, and a device known as an “optical coherence domain reflectometer” (OCDR), which helps check for the large nuclei that dominate cancer cells.

In all, seven measurements are taken at once, which are then correlated. In the past, all of these methods have been used separately, or in combination, to test for cancers, but none has proven as accurate as sucking out tissue and checking it physically. BioLuminate hopes that by combining multiple approaches as cross-checks, it will devise a test at least as accurate as core-needle biopsies.

But before it can be commercialised, the Smart Probe will need to get smarter. Its sensors collect data 100 times a second, writing the information directly to a computer disk. Most of the data from the optical and electrical sensors can be quickly analysed, but the reams of information produced by the OCDR present a tougher challenge. BioLuminate is working hard to crack this problem.

Initial tests are under way at the medical centre of the University of California at Davis, where 17 women, already in the operating room for a standard biopsy, have also been tested with the BioLuminate probe. The team at BioLuminate then analyses the data and correlates them with digital video of the procedure. So far, the probe has proved 100% accurate. Tests are also beginning at the research hospital of the University of California in San Francisco. Meanwhile, Ernie Bodai, director of Breast Surgical Services at Kaiser Permanente in Sacramento, California, is preparing to test the probe as well.

Two things need to happen, however, before women everywhere can breathe more easily. First, BioLuminate needs to make more progress on the data-handling front. Second, it will have to find the money to undertake a large, 1,000-patient trial if it is to gain approval for the Smart Probe from

America's Food and Drug Administration.

But even if the company loses its way, the basic technology is unlikely to remain on the shelf. With the potential for reducing their pay-out costs for biopsies by 80%, health insurers are going to be clamouring for its adoption. Also, because missed breast cancers are the leading cause of malpractice suits in America, the medical profession will have a powerful reason to embrace the technology. Finally, there is a good chance that the Smart Probe, or something very like it, could work equally well for prostate cancer, lung cancer and a variety of other malignancies—making it, potentially, the instrument of choice for anyone suspecting the worst.

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MONITOR

The smoother, the faster

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By tweaking the internet's software foundations, data-transmission speeds for demanding users have been boosted threefold

JUST as you can never be too rich or too thin, you can never have an internet connection that is too fast. But there is more to making the internet go faster than laying bigger, faster data pipes. There turns out to be a fundamental speed limit built into the internet's software foundations—the “transmission control protocol”, better known as TCP. The speed limit only becomes apparent at very high transmission speeds, measured in the hundreds of megabits per second (Mbps). This is vastly faster than a typical “broadband” connection, so most users need not worry about it. But the internet's most demanding users—scientists sending huge data files across the world—are running into problems.

Steven Low and his colleagues at the California Institute of Technology (Caltech) in Pasadena, measured the throughput of a 1,000Mbps connection between two physics laboratories, the Stanford Linear Accelerator near Palo Alto, California, and CERN, the multinational collaboration outside Geneva where the Worldwide Web was invented. They found that the average speed of the connection was, in practice, a mere 266Mbps. In other words, the efficiency of the connection was less than 30%. Why?

The problem stems from the way that TCP responds to congestion. The internet has been able to scale up from millions to billions of users over the past few years due to the simplicity of its design. Computers talk to each other in TCP using a simple rule to ensure that they make good use of available network capacity. One computer sends a chunk of data, called a packet, to another computer, and waits for an acknowledgment message, or ACK. If no ACK arrives, the sending computer assumes that the network is congested and the original packet has been lost, and scales back its transmission rate to half of the previous one. Once reliable transmission has been resumed, the sender gradually starts to increase the transmission rate, until eventually the network becomes congested again, the rate is halved, and so on. The advantage of this simple approach is that millions of computers can share a network with no need for centralised traffic control. When capacity is available, transmission speeds go up; when it is not, they go down.

This approach works well on today's internet, which is a bewildering patchwork of different networks operating at different speeds. But difficulties arise when the bottlenecks in the internet are removed, as they are on the high-speed links used by scientists. The problem, says Dr Low, is that TCP reduces the transmission rate too drastically at the first sign of congestion, and only increases speed again gradually. It is, he says, akin to a driver who can see only ten metres in front of his car, and who increases speed gradually when the road seems clear, but slams on the brakes as soon as another car comes into view. “On a slow street it may work, but on a superhighway it does not,” he says.

So Dr Low and his team have devised a tweaked version of TCP, called FAST. Like the original TCP, it is a decentralised system: each computer monitors the responses to sent packets in order to adjust transmission speed in the face of varying levels of congestion. But FAST does more than simply check to see if an ACK has arrived for each packet sent. Instead, it takes into account the delay between the packet's transmission and the arrival of the corresponding ACK from the recipient. Calculating a running average of this delay time provides far more precise information about the congestion.

Transmission speed can then be adjusted carefully, smoothly scaling back when the first signs of congestion appear, and quickly ramping up again once the congestion has eased. Using FAST, Dr Low and his colleagues were able to improve the efficiency of a 1,000 Mbps link so that it reached 95%—even in the presence of a small amount of background traffic from other users. In other words, the protocol is not just fast, but backwards compatible. Computers speaking FAST can share a network with other machines using standard TCP.

With some office and academic networks now approaching similar speeds, FAST could have widespread applications. It could also be used to speed the transmission of movies to homes and cinemas. But quite what happens to FAST next is unclear. The intellectual property, says Dr Low, belongs to Caltech, which must decide whether to commercialise it by licensing it to computing and networking firms, or give it away free. As in the real world, the speed limit is not just a technical matter, but a legal one, too.

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MONITOR

Bulk chemicals by the drop

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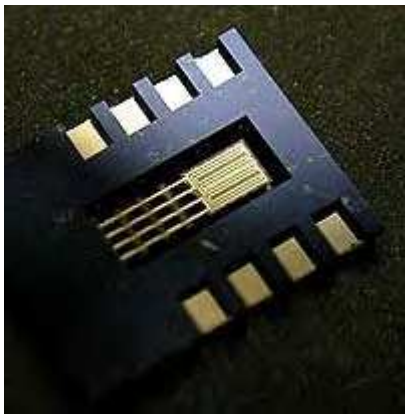
Bigger does not always mean better in chemical plant. Doing chemistry on a microscale can be quicker, cheaper and safer



Building block for a chemical PC

LIKE boys and girls at a school dance, molecules in solution take a long time to get together. A standard chemical reaction—say, compound A plus compound B—may first go red and then require hours of mixing. Confine those molecules to a tiny space, however, and they meet up very quickly and get on with their business. That, plus other attributes related to the way things work in miniature, are spurring the development of microreactors—a technology that exploits the advantages of the small-scale approach to doing better chemistry.

Industrial chemistry is driven by economies of scale. Traditionally, that has meant that bigger had the edge. But when a lot of liquid is churning away in a large reactor, conditions such as temperature and pressure can be hard to control. Moreover, converting a reaction from benchtop to bulk production means redesigning the chemistry (like the chef's dilemma in feeding a crowd), which costs time and money. Some reactions cannot be scaled up at all because they are simply too dangerous to carry out in any quantity.

Microreactors emerged from a few simultaneous, but separate, pioneering efforts in America and Europe in the 1980s. The requirement was to produce for immediate use small amounts of chemicals that are difficult to ship and to store, and to mass-produce microcomponents. Typically, these miniature chemical systems consist of micromachined structures made of steel, silicon, plastic or glass, or of networks of tiny channels, valves and chambers etched into a silicon chip.

Fitting reactions that are normally done in a test tube into channels that are only 10 to 300 microns wide—roughly the diameter of a plant spore—makes moving things around extremely easy, says Andrew de Mello, a chemist at Imperial College, London. In such close quarters, mixing occurs not by stirring, but by diffusion, and is much speedier as a result. Similarly, the ease with which heat can be got into and out of a system permits even potentially explosive reactions to be done safely.

Microreactors now on the market do not aim to replace entire plants, but rather to embed the systems in existing set-ups. For example, the Institut für Mikrotechnik Mainz (IMM) in Germany makes “not so little” steel components such as mixers and heat exchangers that can be combined with conventional technologies to optimise parts of a process. In partnership with the Swiss chemical manufacturer, Clariant, Cellular Process Chemistry (CPC) Systems of Frankfurt engineered a three-step synthesis of pigments using a microreactor system called Cytos. GlaxoSmithKline, a British pharmaceutical company, is evaluating three separate microreactors, including the Cytos system, to improve ways of finding new drugs.

Chip-based microreactors are not as far along commercially, but have the potential to change dramatically how and where chemicals are synthesised, says Klavs Jensen at the Massachusetts Institute of Technology. Already, devices for separating DNA quickly and with high efficiency have proved a useful tool in deciphering the store of information carried in the human genome. Dr Jensen and his colleagues are interested in learning what else microreactors can do, and have created a menagerie of complicated systems relevant to applications in hazardous chemistry and bioprocessing.

Dr de Mello's group is working on mixing things quickly—which could be useful in studying processes such as protein folding, something drug companies are keen to understand—and developing ultra-

sensitive detection techniques for seeing what is inside the chip's microchannels. At the Pacific Northwest National Laboratory in Richland, a town in the state of Washington, Robert Wegeng and his colleagues are focusing mostly on energy applications of microreactors—including hydrogen producers for fuel cells, and tiny heating and cooling systems.

An obvious question for industry is how to turn droplets into significant volumes of chemicals. The solution is to put many small systems together and to operate them continuously. Surprising as it may sound, running six of CPC Systems' microreactors in parallel around the clock generates 30 tonnes of pigment a year. Similarly, a cluster of 100 or 1,000 microreactor chips could theoretically yield amounts of material approaching the scale of fine chemicals production. The issue then is how to monitor an array of that complexity to avoid problems such as clogging.

The situation of microreaction technology is comparable to that of the Wright Brothers in 1903, says Brian Warrington of GlaxoSmithKline. “We can fly, but there are problems.” The greatest of those is simply that old ways die hard.

More optimistically, Dr Jensen has a vision of a “chemical workstation” where each computer card would have chemical and fluidic components in addition to the traditional electronic elements. Indeed, one of Dr Jensen's former students, David Quiram, has demonstrated the feasibility of replacing the functions of a wall-sized chemical fume hood with a PC-like box. But significant integration challenges remain before it can become standard laboratory practice. Building the chemical equivalent of a personal computer is clearly still a few years away.

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MONITOR

Speed reading the book of life

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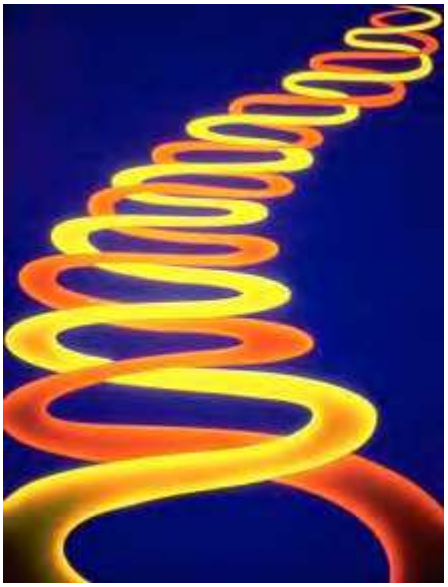
An electronic prism for sorting segments of DNA does in seconds what used to take days



Stuff of life

WHEN the first draft of the human genome was published in 2001, even sober-minded scientists compared the achievement to the invention of the wheel or the Apollo moon landing. The draft of the human genome has, similarly, turned out to be as much a beginning as a breakthrough.

That means doing a lot more gene sequencing—the time-consuming process of breaking down a long strand of genetic material into shorter stretches. Only by doing this is it possible to reveal the sequence of letters making up each gene. To date, this has involved repetitive processes, moving genetic material from vial to vial with a pipette, or separating it in batches on gel plates. Although robotics has sped up many of these processes, the scale of the task still dwarfs the automation achieved.

Researchers at the Centre for Photonics and Optoelectronic Materials at Princeton University have taken an important step to improve matters. Their “DNA Prism” offers a way to separate DNA segments rapidly by size—taking only 15 seconds to do so on a large molecule compared with anything from ten hours to ten days by other methods.

At the heart of the DNA Prism is a 3mm by 9mm array of posts that are two microns in diameter, two microns tall and two microns apart (a micron is one-millionth of a metre). The array is flooded with a buffer solution, and the mixture of DNA molecules of various lengths flows in through a channel along the edge. Electrodes along the edges of the array subject the DNA to a uniform electric field.

At first, a strong electric field is applied across the array by the electrodes. Because the DNA is negatively charged, it moves through the array in only one direction. The electric field is then reduced and its direction rotated by 120º, pushing the DNA molecules more gently in a second direction. Alternating the field strength and direction back and forth creates an average force on the DNA that defines the direction it should take.

The key point behind the device is that the alternating fields affect long and short molecules differently. The result is that the longer molecules move in the direction of the stronger field, while the shorter molecules move in the direction of the average field. By the time the DNA flows to the lower edge of the array, it has been separated by length and can be captured in separate channels.

So accurate is the device that it can separate one DNA molecule that is 100,000 units long from another that is 113,000 units long. According to Lotien Huang, a researcher on the project, this could be improved by increasing the area of the array so that the molecules separate over a longer distance. It is also possible to connect the devices in a cascadeto improve the separation process even further.

By offering a way to speed up the decoding of the book of life, Princeton's DNA Prism may prove more important as a beginning rather than an end in itself—just like the first draft of the human genome or the first landing on the moon.

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MONITOR

Getting cars to talk back

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TRACKING down a problem that sets off a warning-light in your car can be frustrating. By the time you visit the service station, the light has gone out, the problem has disappeared, and the mechanic cannot reproduce it in the workshop or by driving your car. But what if he could monitor your car while you were driving it, under conditions that induce the intermittent problem? That is the premise behind remote diagnostics.

By law, all new cars sold in America since 1996 have required on-board diagnostics (OBD) to monitor emissions. But second-generation devices, known as OBDII, now collect data on practically everything in the car. When you take the vehicle in for service, mechanics download codes from the car's sensors to see if there are any faults.

Remote diagnostics takes detection a step further. A device connected to the OBDII transmits data over the wireless cellular network to a service centre every few seconds, so that a technician monitoring the vehicle can see if a fault has occurred. The service centre then phones or e-mails the owner, telling him whether the problem is serious enough to need immediate attention.

This capability is available on a lot of cars today—notably on the luxury models from General Motors, which have the firm's “OnStar” telematics system installed in the factory. So far, however, none of the carmakers has taken advantage of the ability to do remote diagnostics.

That is about to change. Last year, a small company called NetworkCar of San Diego, California, began selling its “CAReader” to a few local dealers. Since it was acquired by Reynolds and Reynolds, a large supplier of customer-relationship software, the CAReader remote-diagnosis system has looked destined for bigger things.

Selling cars has become such a low-margin business that dealers see remote diagnostics as a way to keep customers coming back. But Thilo Koslowski of Gartner G2, a technology research firm in Stamford, Connecticut, believes that motor manufacturers are likely to benefit most from remote diagnostics.

General Motors, among other carmakers, is now looking at ways to take advantage of such information. “Right now, GM is selling transport, not the experience, and that is a bad business to be in,” says Mr Koslowski. “You are competing solely on price.” Last year, for instance, GM's profit per vehicle was a scant $350—providing a wafer-thin profit margin of 1-2%. With manufacturing costs these days cut to the bone, the only way for carmakers to raise margins is to lower their marketing and warranty costs.

This is where data accumulated over a period of years from customers' vehicles comes in. “Think of the billions of dollars you can save by catching a problem early,” says David Dutch, president of NetworkCar. “Instead of replacing a whole engine, you might only have to replace an O-ring.”

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MONITOR

More hit, less miss for biotech

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Can biotech be made as predictable as physics? A unique modelling tool is bringing some sorely needed discipline to the business

ONE of the most significant advances in biology of late has come from the way it has embraced computers. Yet, one of its most significant setbacks, says Martin Gerstel, a veteran of the drug industry and nowadays chairman of Compugen, a bioinformatics firm based in Jamesburg, New Jersey, has been the erosion of the very foundations of biological research itself.

Because of the enormous number-crunching power of today's computers, Mr Gerstel fears that biologists have begun to rely too much on brute force and ignorance—in a bid to compute their way rapidly to discovery without ever really understanding how they got there. Certainly, biologists are today the biggest users of raw computing horsepower within the scientific community. Around the world, biology laboratories are now pumping out literally terabytes (trillions of bytes) of information every month, swamping themselves in a sea of indigestible data.

Mr Gerstel believes data-swamping is unique to biology. Why, he asks, are disciplines such as astronomy and particle physics—both complex fields that generate huge quantities of experimental data—not being similarly overwhelmed? The answer, he believes, is that the physical sciences are far more predictable than the biological sciences—and therefore allow intelligent shortcuts to be taken. Mr Gerstel and his team want to make biology more like that.

The prediction system they have devised focuses on the so-called “transcriptome”—the biological bridge between the “genome” (the complete sequence of an organism's DNA) and its protein equivalent, the “proteome” (its complete set of proteins). Like a photographic negative, the transcriptome provides the total complement of spliced messenger-RNAs produced in a gene sequence. Because the mRNA's job is to carry messages from genes to the cell's shopfloor, where the proteins they express are manufactured, the transcriptome can be used to define the range of proteins that a gene can produce.

The transcriptome model relies on data that resides in so-called “expressed sequence tags” (ESTs). These sequences are culled from random DNA clones taken from selected tissues at different stages of development and disease. In essence, each EST represents a short piece of mRNA—each a piece of the puzzle that defines the transcriptome.

The end result is a software program that uses a series of complex algorithms for filtering and aligning all the pieces of the transcriptome puzzle. The program first scrubs the data to eliminate erroneous sequences. It then uses the algorithms—still Compugen's best-kept secret—to reassemble the pieces and realign them, to calculate gene structure and all the variants that are possible. The final product is a sequence of transcripts that provide a picture of the transcriptome itself.

Back in 1997, when an early version of the transcriptome model first started giving results, it predicted—contrary to the established view at the time—that “alternative splicing” in the genome was the norm rather than the exception. “People used it to prove we didn't know what we were doing,” says Mor Amitai, Compugen's chief executive. When the genome sequence was completed in 2001, the company was vindicated.

Compugen has since gone on to prove the power of its predictive technology many times over. Last year, for instance, it made an important, albeit accidental, discovery in the prostate-specific antigen (PSA) gene that produces the protein used to detect the presence of prostate cancer. Although the PSA gene was well understood, Compugen found that it also produces a second protein that is specific to the prostate itself, which can also be used to detect prostate cancer and even help create drugs to treat the

disease. The company is currently developing a new diagnostic assay to detect the cancer. Making biology more predictive is proving to be a profitable way of taking the hit or miss out of biotech.

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MONITOR

Defining nanotubes

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APART from being an interesting wireless technology, WiFi is also a good example of the galvanising power of standards. In this particular case, the standard is America's Institute of Electrical and Electronics Engineers (IEEE) 802.11b protocol for wireless-LANs (local area networks). In fact, the IEEE has been working behind the scenes to organise standards for network protocols since 1980, only a few years after researchers at Xerox's famed Palo Alto Research Centre invented a networking protocol called Ethernet. Now, the IEEE hopes to repeat the success of such “anticipatory standards” in another field: nanotechnology.

“We often hear that it's too early to begin work on setting nanotechstandards,” says Edward Rashba, manager of new technical programmes at the IEEE. “But our experience with 802.11b shows that it is never too early.”

To get the ball rolling, the IEEE is searching for a standard way to characterise the electrical conductivity of carbon nanotubes—microscopic,superstrong cylinders of carbon atoms which (among other things) might one day replace the silicon in semiconductors. As it happens, nanotubes have the potential not only to send electrons around integrated circuits faster and more efficiently than silicon, but also to transport electrons at variable speeds—creating the possibility of building chips out of variable transistors, says Daniel Gamota, a Motorola engineer who chairs the IEEE's nanotech standards group.

A commodity market in nanochips—should it become possible to make such things—is likely to emerge sooner if everyone agrees on such basic matters as how to describe and measure the properties of nanotubes. For instance, today's chip designers depend on “Spice”, a powerful software program that uses the physical properties of silicon to model how well a chip's internal components will function. That speeds up the design of new chips no end.

The IEEE sets standards by consensus. Individuals and organisations win the right to vote by contributing actively in preliminary working groups. The final vote on the emerging standard passes only with a supermajority of 75%—with one person, or one organisation, having one vote.The process may not necessarily produce a single standard. Work on wireless networking has thrown up several competing standards—each of which (Bluetooth, 802.11b, 802.11a, 802.11g and so on) appears to be finding a niche in the market. With nanotechnology still in its adolescence, the IEEE wants to stay flexible, says Mr Rashba. If other applications show more promise than nanochips, the standard-setters swear they will go wherever the market leads. Honest.

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SOFTWARE

Building a better bug-trap

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People who write it are human first and programmers only second—in short, they make mistakes, lots of them. Can software help them write better software?

OUR civilisation runs on software, Bjarne Stroustrup, a programming guru, once observed. Software is everywhere, not just in computers but in household appliances, cars, aeroplanes, lifts, telephones, toys and countless other pieces of machinery. In a society dependent on software, the consequences of programming errors (“bugs”) are becoming increasingly significant. Bugs can make a rocket crash, a telephone network collapse or an air-traffic-control system stop working. A study published in 2002 by America's National Institute of Standards and Technology (NIST) estimated that software bugs are so common that their cost to the American economy alone is $60 billion a year or about 0.6% of gross domestic product.

To make matters worse, as software-based systems become more pervasive and interconnected, their behaviour becomes more complex. Tracking down bugs the old-fashioned way—writing a piece of code, running it on a computer, seeing if it does what you want, then fixing any problems that arise—becomes less and less effective. “People have hit a wall,” says Blake Stone, chief scientist at Borland, a company that makes software-development tools. Programmers spend far longer fixing bugs in existing code than they do writing new code. According to NIST, 80% of the software-development costs of a typical project are spent on identifying and fixing defects.

Hence the growing interest in software tools that can analyse code as it is being written, and automate the testing and quality-assurance procedures. The goal, says Amitabh Srivastava, a distinguished engineer at Microsoft Research, is to achieve predictable quality in software-making, just as in carmaking. “The more you automate the process, the more reliable it is,” he says. In short, use software to make software better.

Up close and personal

The best place to put this bug-squashing software is as close as possible to the programmer—because the earlier in the development process that a bug can be identified, the cheaper it is to fix. One rule of thumb, says Djenana Campara, chief technology officer of Klocwork, a young firm based in Ottawa, Canada, is that a bug which costs $1 to fix on the programmer's desktop costs $100 to fix once it is incorporated into a complete program, and many thousands of dollars if it is identified only after the software has been deployed in the field. In some cases, the cost can be far higher: a bug in a piece of telecoms-routing equipment or an aircraft control system can cost millions to fix if equipment has to be taken out of service.

Using one piece of software to scrutinise another and spot mistakes, however, is easier said than done. Computer scientists have spent decades devising techniques, known as “formal methods”, to analyse software and verify that it does what it is supposed to. But there are two big problems. The first is that formal methods do not scale up: it takes a whole page of algebra to prove that a three-line program works properly, yet many programs now run to millions of lines of code. The second is that formal methods are difficult to automate, so verification is still largely a manual, labour-intensive process.

It takes a whole page of algebra to prove that a three-line program works properly.

Grady Booch, a pioneer of software-development techniques and chief scientist at Rational, a development-tools firm that is now part of IBM, says many people in the industry see formal methods as a discredited line of research that has failed to deliver on its grand promises. “We've seen some improvements in methods and technologies, but I haven't seen any breakthroughs since the 1960s,” he says. That is not to say that formal methods are not useful. In some “mission-critical” applications, the cost of applying formal methods is deemed worthwhile. For example, the technique is used to verify critical segments of programs in telecommunications equipment, aerospace and military systems, as well as “embedded” systems such as those found in cars.

However, though formal-methods research may have failed to deliver on the promises of the 1960s, it has still produced a collection of useful techniques. A number of firms are now creating software tools that can allow such techniques to be applied more widely by programmers who are not versed in such formal methods.

The trick is to integrate them into the software systems, called “integrated development environments”, that are used to create and manage code. The key, says Mr Stone, is to accept that there is no “silver bullet” and to be pragmatic instead, applying the right technique where appropriate. The hope is that as these new testing and analysis tools come into more widespread use—becoming a standard part of the programmer's toolkit—the result will be a steady reduction in the number of bugs, and a gradual increase in software quality.

Knowing right from wrong

A popular technique in formal-methods research is to write a mathematical description of a program's desired behaviour, and to compare this with the code's actual behaviour. The problem is that the mathematical description is often just as hard to get right as the code. There are exceptions. Small programs with well-defined functions are obviously easier to analyse than sprawling general-purpose ones. Microsoft, for example, uses a system called a “static driver verifier” to scan for bugs in device drivers. These programs of a mere 100,000 lines of code or so, that do specific, limited jobs—such as providing an interface between a computer and a storage device or video card. But writing a mathematical description of how an operating system or a web browser is supposed to behave is practically impossible.

One way to get around this is to stop trying to decribe what is right, which is very specific, and instead describe things that are wrong, which can be very general, and is thus much easier. A good example is a “buffer overflow”, a common type of error caused when a computer tries to store information in a reserved portion of memory (buffer) that is too small. The buffer then overflows, causing other data to be overwritten, which subsequently causes the program to malfunction—in short, it is a bug. One way to prevent buffer-overflow errors is to use a program that combs through a piece of code, looking for situations where information is being written into a buffer, and making sure that the program checks that the buffer is big enough. If not, the offending code is flagged up as containing a possible bug.

Back to source

Searching for bugs by inspecting the code in this way is called “static analysis”, since the code is not actually running, but is just a huge load of text known as “source code”. Static-analysis tools can be used

to search for security flaws, identify inefficiently written code, and find chunks of unused code that are no longer needed. All of these things can be done without any knowledge of the specific function of the code in question, using general-purpose static-analysis tools.

Microsoft has developed a tool, called PREfast, that runs on a programmer's desktop and performs static analysis on newly written code—so that errors can be spotted quickly before the code goes any further. PREfast was developed and rolled out as part of Microsoft's “Trustworthy Computing” initiative to make its software more reliable. It was originally used during the development of the Windows XP operating system, and is now employed throughout the company. Microsoft plans to make this tool available to outside programmers in due course.

Bugs can also be spotted by comparing a newly updated version of a program with an old one that is known to work. Suppose you are a Microsoft programmer updating the spell-checking function of Microsoft Word. Once you have completed your modifications, you build a new version of the program. To test it, you retrieve a set of pre-prepared “scripts”, each of which is designed to test a different aspect of the program's behaviour (in this case, the spell-checker). These scripts are then executed to verify that the new version of the program performs just like the old one.

This is how testing used to be done at Microsoft, and the same approach is widely used elsewhere. But the difficulty, says Mr Srivastava, is that it relies on the programmer knowing which test-scripts to run. In the case of the spell-checker, it is pretty obvious. But usually it is less clear which aspects of a program's behaviour will be affected by changing one of its parts. So Mr Srivastava has devised a system called Scout, which compares the old and new versions of the program using a technique known as “binary matching”. This determines which bits have changed, and then works out which test scripts need to be applied.

Scout can be used in other ways, too. The number of test-scripts needed gives an idea of how far-reaching the modifications to a program were. If a small change to a program requires thousands of tests, it suggests that the change is quite risky and, if it is not strictly necessary, that it might be a good idea to undo it. Scout can also prioritise tests, so that the most important ones (those that test the parts of the program that have been directly modified) are done first. This enables a programmer facing a deadline to make the best use of limited testing time—say, when hurrying to patch a security hole.

Agitar, a start-up based in Mountain View, California, believes it is possible to go a step further. It has devised a testing system, called Agitator, that examines a program and devises test-scripts automatically. This saves programmers from having to devise and maintain test-scripts manually, claims the company's co-founder, Alberto Savoia, a veteran of Sun Microsystems and Google. The company promises to reveal further details of its approach in the autumn.

Model behaviour

Another way to spot bugs involves analysing a program's code, to determine its structure in the form of a “high-level” model. That model can then be compared with a similar model derived from a modified version of the program, to check that they match and to ensure that new bugs are not introduced as the program is updated and new features are added. In addition to spotting new bugs, this approach can also identify some kinds of existing bugs that appear as inconsistencies in the model.

As well as deriving models from code, it is also possible to derive code from models, at least up to a point. Modelling systems, such as Rational Rose, allow software to be designed on an “architectural level”—ie, without having to write any actual code. This generates a framework into which programmers can insert their code. The most popular approach to this idea involves a notation called “unified modelling language” (UML), which Dr Booch co-invented. “UML is the language of blueprints for software,” he says. It is a language that transcends programming languages, operating systems and other technical details, and allows a program to be tested against its design requirements before a single line of code has been written. Increasingly, says Dr Booch, formal methods are being brought to bear on models written in UML, particularly in such examples as embedded systems.

That does not mean the model has to remain sacrosanct, however. “Writing models and then writing the code never works,” says Dr Booch. Instead, the code and the model are two ways of looking at the same thing. Models can be used as scaffolding to help programmers “climb” existing code, or to guide the construction of new code. Rather than advocating top-down construction, from

Expecting programmers to change their behaviour

model to code, Dr Booch advocates an incremental, iterative process: start with a model, make a working program, and then add features to the program progressively, in small steps, keeping the model updated along the way.

overnight is unrealistic.

The use of models provides much scope for automation: keeping code and models synchronised, for example, so that a change to the code is reflected in the model. The ultimate form of automation would do away with coding altogether. For years, researchers in the formal-methods community have tried to build systems that derive the entire code for a program automatically from a suitably detailed model. But this kind of thing is wishful thinking, says Mr Stone. The reality is that most programmers work on existing code, which was never properly modelled, so modelling tools must be able to work with such legacy code.

Models can also be used to ensure that programmers do not make changes to a program that modify its behaviour in unacceptable ways. Rather than identifying bugs, this involves spotting deviations from the design specifications of the program—typically, by comparing the model derived from a modified piece of code with the model as specified in the original design.

Ms Campara calls this “protecting code from erosion”. It is, she says, a good example of how formal methods ought to be bolted on to the existing software-development process. Expecting programmers to change their behaviour overnight is unrealistic. She advocates the use of automated tools “to apply formal methods from within” in a way that is transparent to the programmer, so that a message pops up on the programmer's screen only when a problem is found.

Coding culture

That leads directly to a potential problem with all of these efforts to use clever tools to improve software quality: they could alienate programmers. Automated-testing tools, which flag potential errors or identify inefficient code, provide “metrics” that can be used to monitor software development. A project manager can then see if, say, a part of a program contains an unusually high “defect density” (number of bugs divided by the estimated size of the program), is ballooning in size (a possible sign of inefficient coding), or is not growing at all (suggesting that the programmer has become bogged down).

This makes the development process more predictable, and means that unexpected problems or delays can be spotted quickly. But it also leads inexorably to comparisons between one programmer and another. Managers can then start asking whose code contains the most bugs or is the least efficiently coded. “For some people it's scary,” says Ms Campara, “but you can actually monitor the productivity and quality of each developer.”

Opinion is divided as to whether programmers will welcome or reject such tools. Mr Srivastava is optimistic, noting that the important thing is that metrics are used appropriately—to guide training rather than punishment. “If you find out what the fault was, and use training to make sure that it doesn't happen again, then it's a positive thing,” he says.

Dr Booch is also an optimist. In a research exercise, he tracked 50 developers for 24 hours, and found that only 30% of their time was spent coding—the rest was spent talking to other members of their team. “Software development is ultimately a team sport,” he says. He believes that tools which look into programmers' code as they work, gather information on trends, and work out which parts of a program are being rewritten most often, could help a team work more effectively.

But not everyone is convinced. Over-reliance on specific metrics would, notes Mr Stone, encourage programmers to manipulate the system. Coding metrics will give people more insight, he admits, but whether they use that insight to make good decisions is another matter. Instead, he suggests that another new class of tools will be used alongside automated-testing tools to automate some of the social and cultural aspects of programming—such as tracking who has changed what, requests for new features, discussions between programmers in different locations, and so on.

Such communication tools might seem far removed from testing and modelling tools. But the desire to communicate, like the tendency to make mistakes, is only human. Using software to improve software depends on recognising that the people who write software are humans first, and programmers second.

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BIOENGINEERING

Spare parts for the brain

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Plugging microchips directly into the brain is no longer science fiction. The technology promises treatments for numerous brain disorders, including Parkinson's and Alzheimer's diseases as well as epilepsy

FOR decades, artificial-intelligence buffs have been trying to create a synthetic mind, an artificial consciousness. Achieving that goal would answer many interesting philosophical questions about what it means to be human. That is well into the future. Meanwhile, a quiet revolution has got under way in the world of neuroscience and bioengineering. These disciplines have made significant progress in understanding how brains work, starting with top-level functions such as thinking, reasoning, remembering and seeing, and breaking them down into underlying components. To do this, researcher have been studying individual regions of the brain and developing “brain prostheses” and “neural interfaces”. The aim is not to develop an artificial consciousness (although that may yet prove to be a by-product). Instead, the goal is more pragmatic: to find a cure for such illnesses as Parkinson's disease, Alzheimer's disease, Tourette's syndrome, epilepsy, paralysis and a host of other brain-related disorders.

To create an interface between silicon-based hardware on the one hand, and brain cells (“wet ware”) on the other, the two entities need to speak the same language. Researchers have made great advances in understanding how the cochlear of the ear and the retina of the eye function at a neural level, and these advances have led to developments such as the cochlear implant (a device that can restore a semblance of hearing to the severely deaf). What people understand much less well is how the central nervous system communicates. However, this area is slowly starting to give up its secrets.

Theodore Berger of the University of Southern California, in Los Angeles, announced early in 2003 that his group was about to begin trials with the world's first brain prosthesis, an implantable hippocampus. The hippocampus is a part of the brain that is involved in the formation of long-term memory. Strokes, epilepsy and Alzheimer's can cause lasting damage to this region of the brain.

Dr Berger and his team do not understand how the hippocampus encodes information. But by stimulating slices of a rat's brain with electrical current, they know that each of the millions of inputs corresponds to an understood set of outputs. From this information, they have built a mathematical model. After ten years of refinement, they have now programmed the model on to a chip. This can be interfaced with the brain through two arrays of electrodes placed on either side of a damaged area. One set of electrodes detects the electrical activity coming in from the rest of the brain, while the other sends appropriate electrical instructions back out to the brain.

The trial will start by testing the device on tissue from rats' brains (which will be kept alive in cerebrospinal fluid), followed by live animals, and then, if all goes well, on human beings. “If you lose your hippocampus, you only lose the ability to store new memories,” Dr Berger wrote in *New Scientist*

recently. “That offers a relatively simple and safe way to test the device: if someone with the prosthesis regains the ability to store new memories, then it's safe to assume it works.”

As the hippocampus performs much in the same way in all mammals, little will need to be changed to make the chip suitable for people. The artificial hippocampus is an important test-case. As Dr Berger points out, if you cannot do it with the hippocampus, you cannot do it with anything. Others reckon that is being a little optimistic. For instance, the role of the hippocampus in storing new memories is reasonably (though not fully) understood, but the region seems to have other functions as well.

Synaptic chip

Scale is often a problem with trying to build spares for the brain. But that has not deterred Mark Peterman and Harvey Fishman of Stanford University from attempting to develop an artificial synapse. Synapses, the junctions between nerve cells, are only 50 nanometres (billionths of a metre) across. Signals are carried across a synapse by chemicals known as neurotransmitters.

In March 2003, Dr Peterman and Dr Fishman announced that they had created four artificial synapses on a silicon chip. And even though these electronic synapses are a whopping 5,000 nanometres wide, they have been wrought in such a way that they can stimulate single nerve cell. Using neurotransmitters to reach cells is a much more subtle approach than the current method of transmitting electrical pulses (such as that employed by cochlear implants). The Stanford team's work has important implications for advances in brain prostheses. But deep brain interfaces may lie some way in the future.

At present, the Stanford group is more concerned with developing a visual prosthesis to help people who suffer from macular degeneration (a leading cause of blindness in people over 60) and retinitis pigmentosa (a genetic disorder that affects night and peripheral vision). Dr Peterman and Dr Fishman are about to begin animal studies to test the efficacy and safety of their artificial synapse for optical-nerve replacement. “The reason this hasn't been done before,” says Dr Fishman, “is that micro-fabrication and micro-fluidic technologies are just becoming acceptable and easier to implement.”

Meanwhile, Tony Prescott and his colleagues at the University of Sheffield, in Britain, have built a robot (or “brain-bot” as they call it) that is controlled by a mathematical model of a less understood area of the brain, the basal ganglia. The basal ganglia are part of the brain that helps people to decide what to do next—what researchers call “action selection”.

The brain-bot simulates the level of dopamine (a neurotransmitter that controls movement and emotional response) in the basal ganglia. Depending on the levels of simulated dopamine, the brain-bot will behave in different ways. A deficit will cause slowed movement and difficulty in selecting or initiating movement—similar to the effect of dopamine neuron loss in patients with Parkinson's disease. High levels of simulated dopamine, on the other hand, causes difficulty in suppressing unwanted actions, or the simultaneous selection of two incompatible actions—similar to patients with Huntington's chorea, Tourette's syndrome or schizophrenia.

In the future, robots with simulated brain circuits might help us to identify and simulate new forms of treatment for damaged brains.

“In the future, robots with simulated brain circuits might also help us to identify and simulate new forms of treatment for damaged brains. Brain-bots are fairly new technology, but they have great potential for the future of bio-research,” says Dr Prescott.

A robot controlled by a simulated basal ganglia is one thing, but researchers at Georgia Institute of Technology in Atlanta have gone a step further. In April 2003, they announced the first robotic device with movements controlled by a network of nerve cells in a Petri dish. This *in vitro* neural network consists of a few thousand neurons and glial cells (cells that support and protect the neurons) from the cortex of a rat embryo. The neural signals are picked up by an array of 60 microelectrodes, amplified, digitised and sent to a computer. The computer then separates real signals from background noise, and looks for recurring patterns in the data that drive the robot.

The Hybrot (ie, hybrid robot) was developed by Steve Potter and his research team at Georgia Tech's laboratory for neuroengineering. “We hope to learn how living neural networks may be applied to the artificial computing systems of tomorrow,” says Dr Potter. “We also hope that our findings may help cases in which learning, memory and information-processing go awry in humans.” One day, the techniques being developed in Georgia may help the brain to control prosthetic limbs directly.

Going commercial

Much of this work is only at a preliminary stage. The full extent of commercial applications has still to be explored. But a number of companies are eager to cash in on the know-how. Infineon Technologies, a German company, recently announced that it has developed a biosensor chip capable of recording, amplifying and processing the electrical signals from neurons in the brain. The Neuro-Chip, which was co-developed with the Max Planck Institute, should help researchers to understand how the brain works, and point the way to possible treatments for neurological disorders such as Alzheimer's disease. Other commercial organisations involved in this burgeoning field are the Swiss company K-Team (which developed the robot used by the Georgia Tech group) and a German firm called Multi Channel Systems (which developed the multi-electrode array dishes and amplifier used by the group).

But before neural prostheses hit the market, numerous technical and ethical issues have to be dealt with. As Daniel Dennett, director of the Centre for Cognitive Studies at Tufts University in Medford, Massachusetts, points out, the brain is not like a heart or a lung with a single, fixed function (eg, pump or gas-exchange device). The brain has a multitude of functions, and even if every bit of the brain is what Dr Dennett calls “fungible” (meaning it can be replaced, without loss of function, by a prosthetic alternative), the demands on a true functional duplicate that can take over all the functions of whatever piece it replaces are mostly going to be too great to permit replacement.

That is not to say that Dr Dennett is opposed to the development of neural prostheses. Rather, he believes that in the foreseeable future these prostheses are going to be special purpose, mostly peripheral devices—such as the retinal prostheses being developed at Stanford University, or the “bionic eye” at the University of Southern California. “Since brain damage leads to some of the most heartbreaking suffering our species can know,” says Dr Dennett, “prosthetic devices that could restore some semblance of normal function would be precious indeed—and, for some conditions, the future is bright.”

But it is the desperation of people with these degenerative brain-conditions that makes Arthur Caplan, chairman of the department of medical ethics at the University of Pennsylvania in Philadelphia, uncomfortable. There could be pressure to get these devices to market as quickly as possible. Dr Caplan warns that well-designed protocols need to be in place before clinical trials begin.

Hastily convened clinical trials are not the only concern. The biggest ethical question, worries Dr Caplan, is: “If you alter the brain, how much of this can you do before you make an entirely new person?” It is not about whether the patient is still a human being. It is more about whether the patient is still the same person. If a friend has a heart transplant or a hip-replacement, you would not dream of asking them “is that you?” However, if a significant part of the brain were replaced, you just might.

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Spread betting

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From The Economist print edition

How code-division multiple access (CDMA) technology emerged as the world standard for mobile phones

ITS name hardly trips off the tongue. But thanks to a boffin from Bell Labs in New Jersey, plus the rise of the microprocessor and some engineers in San Diego who wouldn't take no for an answer, code-division multiple access (CDMA) technology is now conquering the wireless world. Its story is a textbook example of a broader principle of technological innovations, that while a simple way of doing something is sometimes the best, a more complicated approach—provided it can be made sufficiently cheap and reliable—can be better still.

CDMA is a form of “spread-spectrum” technology which, as its name suggests, involves spreading a radio signal out over a range of frequencies—in contrast to the usual approach of transmitting on a single, well-defined frequency. The origins of CDMA go back to 1948, when Claude Shannon, a researcher at Bell Labs, published “A Mathematical Theory of Computation”, which provides the mathematical underpinning for modern computing and communications technologies. Among other things, Shannon popularised the term “bit” (short for “binary digit”), the smallest possible unit of information. He also investigated the theoretical limits of data transmission over a noisy channel.

Combining a message with an apparently random sequence of ones and zeroes, Shannon observed, would produce a spread-spectrum signal that resembled random noise. A synchronised receiver equipped with the same pseudo-random code could, however, “de-spread” the signal and reconstruct the original message. But to any other receiver, the signal would be indistinguishable from background noise. As a result, several such transmissions could co-exist in the same swathe of spectrum—though eventually a limit would be reached, when the total level of background noise caused by the multiple transmissions would be too high for reliable communication.

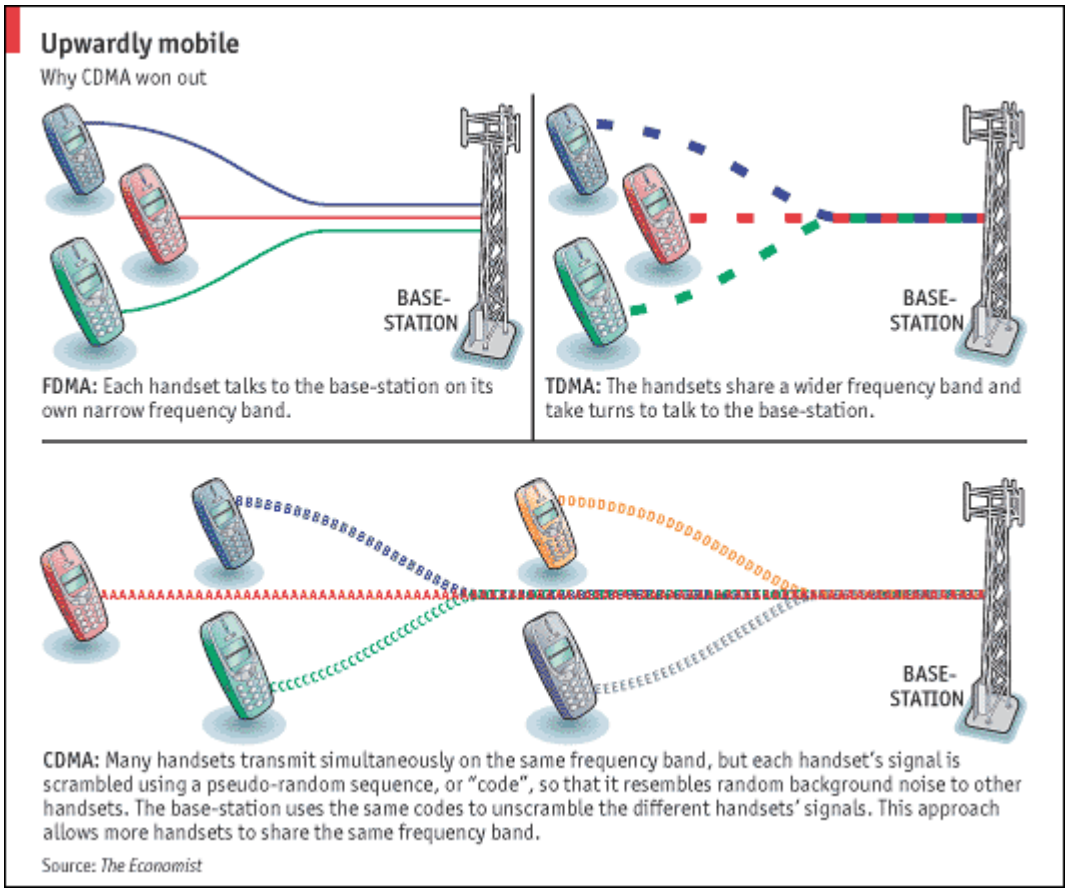
When Shannon outlined this idea, it was entirely theoretical. The electronic hardware required to build such a system did not exist at the time. Even as electronic components improved and fell in price, his observation did not seem to have any practical application, since there were other, simpler, ways to divide up radio spectrum between multiple users. But by the 1980s, when analogue mobile phones started to become popular, the limited spectrum available for wireless telephony began to become increasingly congested. At the same time, the cost of computing power was plunging, following the trajectory of Moore's law (which states, roughly, that the cost of a given amount of computing power halves every 18 months). Though few were aware of it, Shannon's scheme was becoming more practical by the day.

Eureka on the I-5

In the autumn of 1985, as he drove from Los Angeles to San Diego, Irwin Jacobs, a telecommunications engineer, was thinking about mobile phones. At the time, his newly founded company, Qualcomm, was evaluating the design of a satellite-based mobile-telephone system for Hughes, an aerospace firm. As with analogue cellular phones of the time, the idea was that each phone would talk to the base-station (in this case, a satellite) on its own radio frequency. But, Dr Jacobs realised, this was very inefficient. Usually during a phone call, only one person is speaking at a time, so there is no need to transmit anything back in the other direction. Giving up an unused radio channel when it was not needed would result in a significant increase in capacity. But dynamically assigning and reallocating channels, particularly with the second-long delays associated with satellite-based systems, would be impractical.

Then Dr Jacobs remembered Shannon's suggestion: several spread-spectrum signals that resemble background noise can share the same spectrum, up to a certain limit. Dr Jacobs wondered if handsets could be designed so that they stopped transmitting when the user was listening rather than talking. The

result would be to lower the level of background noise—and hence the level of interference—for other users sharing the same spectrum. Because the capacity of a spread-spectrum system is limited by the interference caused by other users, lowering the amount of interference (by ceasing transmission whenever possible) increases the number of users that can be supported by the system. “That was the lightbulb,” recalls Dr Jacobs.



Another Qualcomm engineer, Klein Gilhousen, realised that the spread-spectrum approach would have another benefit. In cellular networks, adjacent cells cannot use the same radio frequencies to communicate with handsets—otherwise interference will result in the overlap areas. The standard way around this is to use a mosaic pattern, so that only some of the available frequencies are used in a given cell, and none of those frequencies is used in any neighbouring cell. But this reduces the capacity of the system. With a spread-spectrum approach, on the other hand, handsets and base-stations do not transmit on particular frequencies, but across a broad frequency range; and each user's transmission looks like noise to other users. This means all the spectrum can be reused in adjacent cells, providing a further boost in capacity.

Qualcomm and Hughes went on to build a simulator to test these ideas, but the satellite-telephony plan was abandoned. So, in 1988, Dr Jacobs decided to apply it to terrestrial cellular telephony instead. By then, the mobile-phone industry was in the midst of a heated argument over the best way to replace the analogue system with a second-generation (2G) digital system. It was clear that a digital system would be more efficient and would support more users, but there were two competing approaches.

Taking turns to speak

One, called “frequency-division multiple access” (FDMA), was similar to the old analogue system—in the sense that each handset within a given cell would operate on its own radio frequency. But improvements due to digital encoding would mean that three digital channels could be squeezed into each analogue channel, tripling the number of available frequencies, and hence the number of users that could be supported. The alternative, called “time-division multiple access” (TDMA), would squeeze more users on to each frequency by having their handsets take turns to transmit and receive—a principle known as “time-slicing”. In America, the industry decided to adopt the TDMA approach, and a similar system, called GSM, was adopted as a Europe-wide 2G standard.

Roberto Padovani, Qualcomm's chief technology officer, explains the difference between these approaches by analogy with a dinner-party conversation. FDMA is akin to a party at which everybody talks simultaneously, but each pair of speakers converses at a different musical pitch, from booming bass to piping treble. A rota system in which party-goers took turns to speak would be like TDMA. And everybody talking at once, only in different languages (so that other conversations are rendered incomprehensible), would be equivalent to the spread-spectrum approach, by now dubbed CDMA.

Wavering sceptics

Dr Jacobs started talking to American operators in 1989, but they were sceptical. For a start, compared with TDMA or FDMA, CDMA was extremely complicated, which would make handsets much more expensive. And the industry had just emerged from a bruising battle between FDMA and TDMA.

Getting CDMA to work meant solving a number of problems. First, there was the difficulty of synchronising the pseudo-random codes used to spread the signal out at the transmitter, and de-spread it at the receiver. These codes change a million times a second. And the system will only work if the transmitter and receiver are perfectly synchronised.

The Qualcomm team started by synchronising the base-stations using the atomic clocks of the global-positioning system (GPS) satellite network. But that left the problem of synchronising handsets with base-stations. This is done, essentially, by trial and error. The radio signal (which resembles noise) is plucked from the air by the receiver, and the appropriate pseudo-random code is then applied to de-spread a chunk of the signal. Most of the time, the result is still noise. The code is then re-applied with a small time shift, and is repeatedly shifted forwards and backwards in time until an intelligible signal emerges.

This technique can also be extended to provide better coverage inside buildings and built-up areas, where reflections of the radio signal can cause interference. The time-shifting trick used to de-spread and extract the signal can also be used to identify delayed reflections of the signal, which can then be combined with the original using something called a “rake receiver”. Again, this involves lots of clever software in the handset.

What seems impossibly complex today may well seem simple tomorrow—thanks to the relentless advance of Moore's law.

A second hurdle was the so-called “near-far” problem. The basic principle—that all transmissions should look like background noise to all but the intended receiver—works only if all transmissions are of equal intensity. This means that a handset near a CDMA base-station has to transmit at a lower power than a handset far away, so that both signals are of equal strength at the base-station receiver. Otherwise, the nearby handset will drown out the more distant handset's signal.

To prevent this, CDMA handsets adjust their power output 800 times per second in response to signals from nearby base-stations. If a handset's signal becomes too weak, the base-station asks it to increase the transmission power; if it is too strong, the handset reduces the power. The result is that the handset always transmits at the lowest possible power level—which has the additional benefit of extending battery life. Once again, the near-far problem is solvable, but at the cost of making the handset a good deal more complex.

In June 1989, Dr Jacobs presented his ideas to a meeting of the Cellular Telephony Industry Association, an American industry body, to see if anybody could find a hole in his scheme. Despite widespread scepticism, nobody did. So the Qualcomm team decided to build a demonstration system, to be unveiled in November 1989.

Two base-stations were set up in San Diego, and a mobile unit, equivalent to a handset, was installed in the back of a van. After a few speeches, the idea was to test the system by driving around in the van and making phone calls. But just as he finished his speech, Dr Jacobs noticed a technician frantically signalling him to continue talking. Something had gone wrong. He started talking again, and over an hour later he was given another signal that all was well. (It turned out that the GPS receiver in one of the base-stations was faulty, making it necessary to wait for it to re-synchronise.) The demonstration then proceeded smoothly.

Even so, there was still much scepticism. Would a system that worked in San Diego work in the concrete

canyons of Manhattan? Would it really be possible to pack all the technology required to support CDMA into a small handset? The answer was yes in both cases. By November 1991, Qualcomm was demonstrating its technology with base-stations and handsets ready for large-scale production, and had begun the process of licensing its technology to equipment manufacturers. By then, several operators were interested in the system, though it took until 1993 for CDMA to be approved as an industry standard. The first CDMA network was switched on in Hong Kong in 1995, closely followed by two more networks in South Korea, and two in America. European regulations, however, require operators to use GSM technology, to ensure compatibility and roaming between countries.

But CDMA's technical superiority meant that it was the logical technology on which to base third-generation (3G) wireless telephony. The result was another bruising industry battle. Rather than adopt Qualcomm's CDMA technology, European and Japanese equipment makers devised their own version of CDMA, called W-CDMA, which is more compatible with their existing GSM network infrastructure. Qualcomm, meanwhile, devised a 3G version of CDMA, called CDMA2000. There are now CDMA2000 networks operating in the United States, South Korea and Japan.

W-CDMA has taken longer to get out of the starting blocks for a number of reasons. It is a new, untested standard, and getting equipment from different vendors to work together has proved harder than expected. But W-CDMA networks are gradually being launched across Europe. To complicate the picture further, China has developed its own 3G standard, called TD-S CDMA. As its name suggests, it, too, is a version of CDMA.

Room for improvement

In one form or another, then, CDMA is set to become the dominant technology for mobile telephony around the world, as 2G networks are upgraded to 3G. But there is still room for improvement. Dr Jacobs believes that versions of CDMA, optimised for high-speed data transmission, will ultimately combine the benefits of high-speed but short-range WiFi connections, widely used these days on laptop computers, with the universal coverage of a cellular network. Already, several such networks, based on a CDMA technology called EV-DO, are being built in South Korea and America. While WiFi makes sense within homes, offices and universities, says Dr Jacobs, he is not convinced that current efforts to build commercial WiFi hotspots will succeed.

Suggesting that CDMA will triumph over WiFi is daring enough. But what of that other great wireless hope, “ultra-wideband” (UWB) transmission, which is the focus of much interest from venture capitalists and start-ups alike? Dr Jacobs believes UWB is unsuitable for use in wide-area networks and will mainly be used for short-range data transfer—say, between video cameras and personal computers. When it comes to telephony, he believes CDMA will be the standard for years to come. “For voice, I don't see much competition,” he says.

Perhaps the greatest lesson from the story of CDMA is that what seems impossibly complex today may well seem simple tomorrow—thanks to the relentless advance of Moore's law. Without it, Dr Jacobs admits, CDMA handsets would have been too large, and the base-stations would have been too expensive. “Our argument was that Moore's law will take care of cost, size and power for us,” he says. As Qualcomm has packed more features into the CDMA chips it sells to handset-makers, the latest CDMA2000 handsets have come to support colour screens, picture messaging, video clips and GPS positioning, The next step will be to build CDMA chips that can handle multiple flavours of CDMA, plus GSM, to allow truly global roaming with a single handset. It seems a daunting task now. But thanks to Moore's law, it will seem only half as daunting in 18 months.

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Player-piano pioneer

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SHE is chiefly remembered as a femme fatale and a pioneer of the nude scene. But Hedy Lamarr, a Hollywood actress who died in 2000, also played an unlikely off-screen role as a technological pioneer, co-inventing in the 1940s an early incarnation of spread-spectrum wireless technology.

Lamarr accompanied her husband, Fritz Mandl, an Austrian arms dealer, to numerous meetings and dinners, and became familiar with the problem of sending control signals to a torpedo after it was launched from a ship. Using a wire several miles long was impractical, so the obvious alternative was to use radio instead. But that would alert the enemy that a torpedo was on its way, allowing its signal to be jammed.

After divorcing her husband, Lamarr ran away to America in 1937. She found success in Hollywood, where she met George Antheil, an experimental composer, at a dinner party in 1940. He was known for composing music for “player pianos”, mechanical instruments that play back music encoded as holes punched in a roll of paper. Lamarr realised that Antheil, who shared her opposition to the Nazis, could help her develop an idea to make radio transmissions extremely difficult to jam or intercept.

The pair were jointly awarded a patent in 1942 for a “secret communication system”. The idea at its heart was that of “frequency-hopping”. By changing the frequency of a radio transmission many times a second, causing it to leap around in an apparently random fashion, a radio signal could be made almost impossible to intercept. Only a receiver programmed with the same random sequence would be able to follow the signal as it hopped from one frequency to another.

Both sending and receiving stations would, however, need some mechanism to encode and control the frequency-hopping pattern. Lamarr and Antheil proposed using a punched-paper roll—like that of a player piano. Their system would hop between 88 different frequencies, the number of keys on a modern piano. The player-piano rolls in the transmitter (aboard the ship) and receiver (in the torpedo) would be started at exactly the same moment, and would then stay synchronised after launch, providing a secure radio link from the ship to the torpedo.

This idea is known today as “frequency-hopping spread spectrum” (FHSS) since the signal, as it hops around, is thus spread across a range of the radio spectrum, rather than remaining on a single frequency. Lamarr and Antheil offered their idea to America's armed forces, but it was not taken seriously.

It was nearly 20 years before a radio based on FHSS was eventually constructed, using electronic components rather than mechanical components and paper rolls. It was used to secure communications during the Cuban missile crisis in 1962. Code-division multiple access (CMDA) is based on another approach, called “direct-sequence spread spectrum” (DSSS), so it is not directly descended from Lamarr's work. But FHSS lives on in today's mobile phones: it is the basis of Bluetooth, a short-range wireless protocol that is used to connect handsets to other nearby devices.

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SOFTWARE

Grokking the infoviz

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Information visualisation is about to go mainstream. While it may not be the killer application some expect, "infoviz" is going to help users to manipulate data in wholly new ways

SOFTWARE firms still have the irritating habit of marketing new products as "killer applications". Yet almost none of the products they trumpet has a chance of measuring up to the program for which the term was invented 25 years ago: the spreadsheet. That was the reason why many people bought their first PC. It allowed them to build models and play with their data. With spreadsheets, "what if" scenarios could be calculated and recalculated easily. If the value in one cell was changed, the data in related cells were automatically adjusted. Users can, in the words of Clay Shirky, an American software expert, "converse with the data".

Now, another kind of software that lets users converse with the data is going mainstream. It consists of programs that help you to visualise large amounts of information. They have made their way into the enterprise software used by large corporations. Interactive charts are showing up on websites. And earlier this year, Groxis, a start-up based in Sausalito, California, released Grokker, an innovative graphical tool that it also sells to consumers for $99. Will "infoviz", as geeks call the technology, become a killer application, rather as spreadsheets did?

As the term implies, information visualisation is all about making data visible—or, more precisely, the patterns that are hidden in the data. Graphic aids such as charts have done this for ages, says Ben Shneiderman of the Human-Computer Interaction Laboratory at the University of Maryland (and co-editor of "Readings in Information Visualisation", the sacred text of the field). What is new, he and his colleagues explain in the book, "is that the evolution of computers is making possible a medium for graphics with dramatically improved rendering, real-time interactivity and cost."

The goal of information visualisation is not to analyse data gathered from, say, tornadoes or nuclear explosions (that is called scientific visualisation). Instead, it aims to create a computer "user-interface" that is better than today's "desktop" metaphor—so that people can get their arms (or, rather, their eyes) around the ever-increasing amount of information stored in corporate computer systems, available on the internet, or kept on PCs.

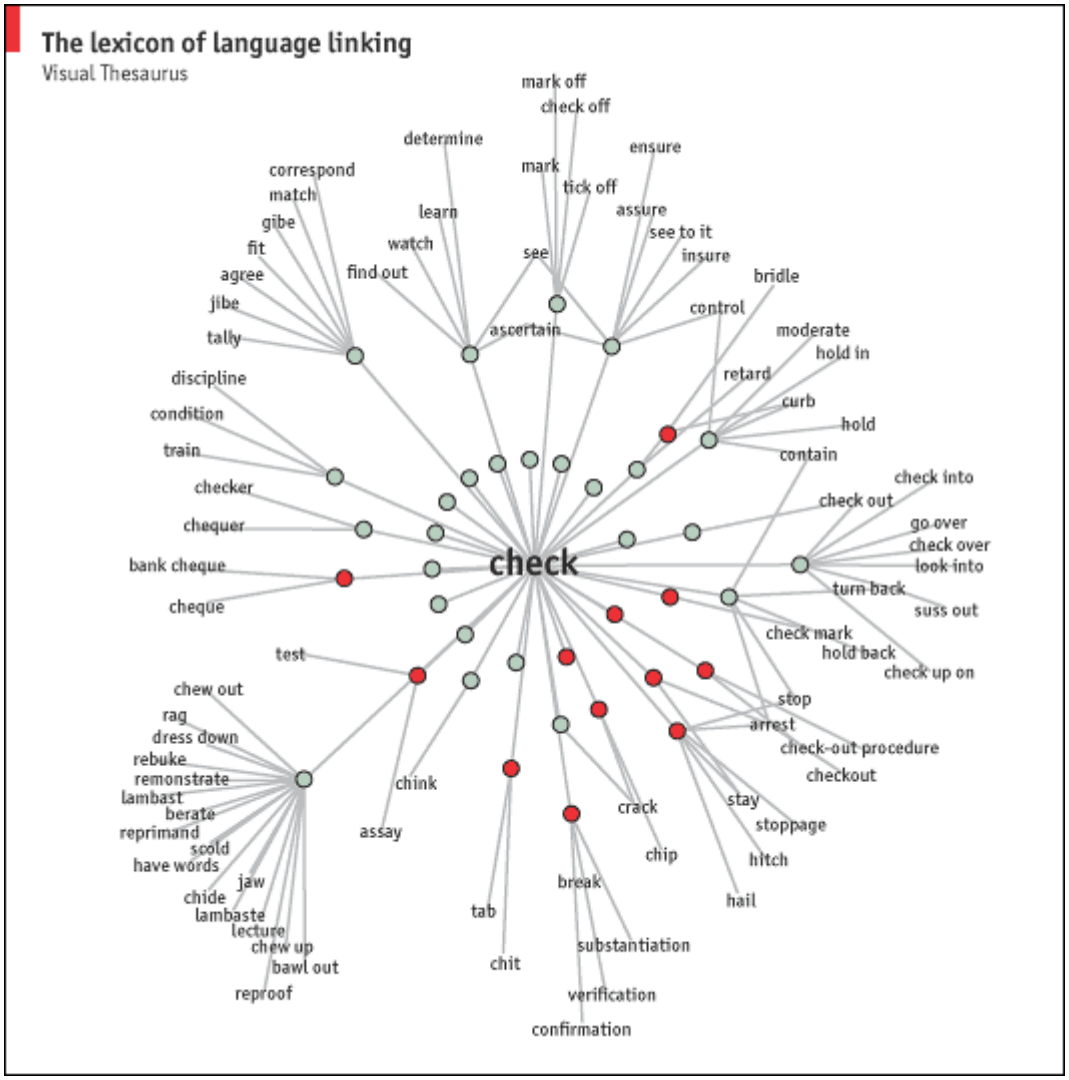
This concept, of course, is not new. It had its debut about 15 years ago. In 1987, the National Science Foundation in Washington, DC, published a report entitled "Visualisation in Scientific Computing". Later, in the early 1990s, Xerox PARC, a legendary Silicon Valley research laboratory, published its work on the next-generation user-interface that pioneered many of the approaches still used today.

Yet, despite its obvious potential, information visualisation never really took off commercially. The main reasons for the slow coming are that the PC's present interface is so well entrenched, and that its evolution is controlled by a few companies such as Microsoft, argues Ramana Rao, one of the researchers at PARC and now chief technology officer at Inxight, a firm spun out from the lab in 1997.

Recently, however, things have begun to change. Information visualisation is becoming more widespread—particularly in corporations, as part of enterprise-software packages. For one thing, the digital plumbing is now in place. More and more data are kept in a "structured" way (ie, in a format that can easily be digested by visualisation programs) or can be converted into such a format by special software tools. The spread of XML (short for the eXtensible Markup Language) also makes it much easier to "tag" data and integrate information from different sources.

Most important, the search for further cost reductions is driving firms to use visualisation tools. Having automated many of their business processes, companies now collect huge amounts of data that they

want to analyse to gain a competitive edge. After rounds of lay-offs, companies have fewer people to take complex decisions—a shortage that better software tools can help to alleviate.



Such corporate applications are the main source of business for Antarctica Systems, a company founded in 1999 by Tim Bray, one of the creators of XML. The firm is best known for using cartographic maps to visualise “shared information spaces” such as catalogues, inventories and guides—because people are familiar with maps, which can pack a lot of information in a limited space such as a computer screen.

Antarctica's Visual Net lets customers turn their data into a geographical map. The categories of an online directory, for instance, appear as countries. Their surface indicates how many websites can be found under each heading. And there are “cities”—virtual landmarks, in this case the main websites. Users can also zoom in, to get a closer look at the lay of the information land.

One of Antarctica's customers is Which? Online, a website of the Consumers Association, a consumer-research organisation based in Britain. The group's numerous guides are displayed as a map of the United Kingdom. Subscribers can click through from country to county to city to neighbourhood, to find a good hotel or restaurant.

Other start-ups are offering not cartographic but heat maps, where “heat” is represented by those parts of the map that change colour—say, from hot red to cool blue—when the underlying value (eg, share price or interest rate) changes. Panopticon, a Swedish firm, has specialised in building such heat maps for financial institutions. The European arm of J.P. Morgan Chase, an investment bank, will use them to monitor credit markets.

The most famous and instructive heat map is the MarketMap on the website of *Smart Money*, a personal-finance magazine. The map lets users keep track of more than 500 shares at the same time. It is a collection of coloured rectangles, each representing a company. A rectangle's size reflects the market capitalisation of the firm it represents. Its colour shows the performance of the firm's share price. Green means that the shares are up. Red means they are down. Black means they are unchanged.

When a user moves his cursor over one of the rectangles, a small panel containing more detailed information pops up. Users can also drill down by clicking on a rectangle that will bring up a menu offering links to such elements as news about a company, charts and earnings data. A separate control panel allows users to select time periods or colours.

From maps to trees

Yet surface maps are not the only model of information visualisation that has gained support of late. Another approach focuses less on displaying information and more on making navigation easier using trees or webs. Mr Rao calls them “widgets”—the basic building-blocks of graphical user-interfaces, such as buttons, toolbars and menus.

A classic in this category is the Visual Thesaurus created by Plumb Design, a start-up based in New York. Related words are linked with “virtual springs” that pull them together into a cluster. To navigate through the Visual Thesaurus, a user types in a word which pulls up a tree-like shape with the word in question at the centre, and related terms clustered around it (see diagram). Definitions appear when the cursor is moved over dots next to the words. To find out more about a synonym, a user can click on it, which makes it move to the centre of a new cluster of words.

Users often react enthusiastically when they first see new visualisation tools, but then turn wary.

Clicking on a node, to move it into the centre, is also a feature of Inxight's interface. Called Star Tree, it is a virtual magnifying-glass that highlights part of a hierarchy—say, an employee's name. Linked data—in this case, other employees—are concentrated at the edges, so users can see the forest as well as the trees. More than 50 information-technology firms, including Tivoli, Hewlett-Packard and Computer Associates, have included Inxight's Star Tree in their offerings.

Most visualisation products focus on surface maps, webs or trees. Grokker, by contrast, is something of a novelty. Instead of showing search results as, say, a list, the program can display them as a collection of circles within circles. A big circle represents all the results. Smaller orbs within it are sub-categories. Clicking on one will expand it and reveal yet more circles. Drilling down further in this way will eventually get a user to a single document.

What also differentiates Grokker (derived from the word “to grok”, or to understand something completely, which was coined by Robert Heinlein, a science-fiction writer) is that it comes as a program to be installed on a PC. Just as with a spreadsheet program, users can therefore have a dialogue with the data by looking at them from different angles—for instance, by having the size of a circle represent the amount of data it contains, or using colour to express relevance. And just as with spreadsheet files, users of Grokker can share their data views with others, allowing them to collaborate.

But do all these new offerings mean that Grokker and other information-visualisation tools will become a killer application? One problem, for consumers at least, is that many of the data they access are still unstructured. Search engines, for instance, still do not produce their results in a format that can be fed into these tools. And rare are the PC users who systematically classify their files.

More important, however, users have proved slow to adopt new computer interfaces. They often react enthusiastically when they first see new visualisation tools, but turn wary when it comes to using them—because that means relearning how to do things.

Instead of succeeding as a stand-alone application, information visualisation is more likely to show up on web pages. Consider the cases of Which? Online, MarketMap and InterfaceFLOR, a carpet manufacturer that uses the enterprise version of Grokker to let customers design their own floor coverings. Integrating new interfaces into websites helps overcome both adoption barriers: data integration is much easier and the interface can be optimised to the task at hand.

This approach also allows experimentation about which new interface users like best. Only when users have made their pick, predicts Mr Rao, will new widgets have a chance to make their way into popular PC applications, such as spreadsheet programs. In a way, such an outcome would replicate what has occurred in the offline world. Many print publications (including *The Economist*) use charts as illustrations. Most of these are line or bar charts. But most of what is printed is still text.

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COMPUTING

The sentient office is coming

Jun 19th 2003
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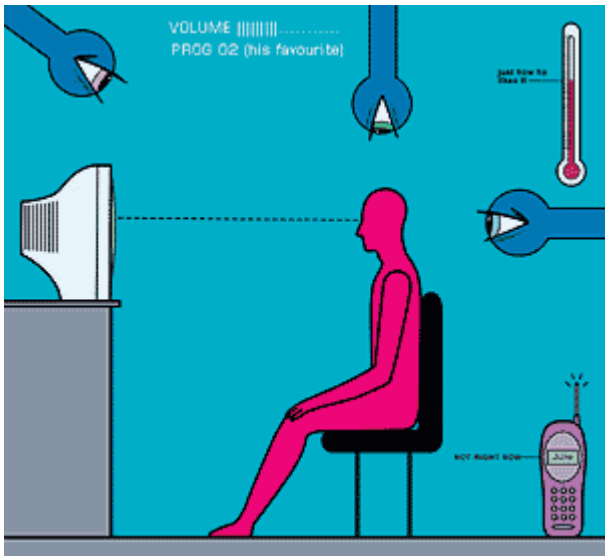

Though still in their infancy, sentient computing systems are likely to be everywhere within five years—listening and watching, and ready to anticipate their users' every need

RUBBER mallets began appearing in offices soon after Microsoft launched its Windows 95 operating system. An enterprising businessman realised that, faced with inexplicable program glitches and unfathomable menus, frustrated users needed to vent their anger on their recalcitrant computers, but without doing them too much harm. Although computers are championed as tireless servants, when it comes to using them it is the user who has to adapt to the computer, not vice versa. As computing plays an increasing part in people's lives, much research is being focused on making computers genuinely friendlier and more useful.

This is why “sentient computing” has begun to capture people's attention. By adding sensors to today's computing and communications technology, sentient computing seeks to take account of a machine's environment in order to make it more responsive and useful. Sentient computing systems are always on, ubiquitously available, and can adapt to their users. In short, they seek to become real help-mates. To quote a European Commission report, the aim is to create “convivial technologies that are easy to live with”.

According to Emile Aarts at Philips Research in Eindhoven, the Netherlands, these convivial technologies will emerge in a number of ways. User interfaces, for example, will move from “cognitive” to “intuitive”.

So, instead of having to turn the television on, the TV will know what you want by combining an understanding of what you say, your expression, your gestures and even how you walk. Ideally, the television set will also be aware of the context—say, turning the sound down if you are on the telephone. And it can recognise you personally, remember what your favourite channels are, and which programmes to record. All this will happen in an environment where computing and communications are as invisibly available as electricity or water.

Some products already capture the spirit of sentient computing. When the makers of mobile phones first put the mouthpiece on a flip-up cover, users had to open the handset and irritatingly press a button to answer a call. It did not take long for manufacturers to add a sensor so that opening the flip-up cover answered a call and closing the cover ended it. A small change, for sure, but one that made the flip-

phone far easier to use.

Similarly, Microsoft researchers have given wireless PDAs (personal digital assistants) new user interfaces by adding tilt sensors and accelerometers. Users can scroll through documents by tipping the PDA back and forth—as if they were controlling the ball-bearing in a toy maze. Lifting the PDA to the ear creates sensor outputs that cause the device to make a phone call. Researchers have even used the accelerometers to recognise walking patterns so that the PDA can decide whether to accept or divert a phone call.

Staking out the territory

With such usefulness in mind, research on sentient computing has become increasingly active in information technology (IT) laboratories in Europe and America. Projects under way at the University of Cambridge, the Massachusetts Institute of Technology (MIT), Philips and elsewhere are attempting to stake out the territory by delving into such topics as “ambient intelligence”, “ubiquitous computing”, “aware environments” and the “intelligent home”. In fact, groups such as Andy Hopper's at Cambridge have been working on sentient computing since the late 1980s. But the swell of interest caused by developments in mobile communications and entertainment has attracted lots of others to the field.

MIT, for instance, has its Project Oxygen, a broad research effort on pervasive human-centred computing sponsored by Acer, Delta Electronics, Hewlett-Packard, Nippon Telegraph and Telephone, Nokia and Philips. According to Victor Zue of MIT's Laboratory for Computer Science, the Oxygen project sprang from curiosity about four issues. The first was to get computers to help people achieve more by doing less. The second was to understand what happens when computing and communications become basically free. The third was to return computers to the service of users. And the fourth was the desire to make computers understand people's needs.

Not a bad start—if modern households are anything to go by. Affluent homes today are flooded with technology—from DVD players and widescreen TV sets to multiple computers, home networks, wireless devices, and a plethora of fixed and portable music players. They are also swamped with information, streaming through phone lines and broadband internet connections, analogue and digital television and radio, and recorded media such as CDs and DVDs made at home or brought in from record or video stores. The pile of remote control units makes a clear statement that there must be a better way of telling machines what you want.

Another reason why sentient computing is becoming popular is that the technology is at last getting good enough to make it all happen—if not now, then at least with computing, communications and storage technologies that are on the near-term horizon. Also, the infrastructure needed to make sentient computing a reality—communications that are ubiquitous and always connected—is getting established as mobile and other wireless networks spread.

Finally, there is the profit motive, or lack thereof. With the IT industry having been in the doldrums for two years now, firms are desperate for something new—anything—to kick-start demand.

At Philips Research, Mr Aarts believes that the availability of technology and infrastructure, plus people's desire for simpler and friendlier user interfaces, is what lies behind the surge in interest in sentient computing. But beyond such factors lies a significant change in the way business is done—a shift to an “experience-based economy”.

This is the next stage after moving from commodities to manufactured goods and then to services. When services become commoditised, so the argument goes, the way to re-infuse them with economic value is to present them as experiences—hence the squashy sofas that Starbucks uses to differentiate itself from ordinary coffee-shops. With mass-customisation, says Mr Aarts, the key differentiator for future products will be the experience they give you. Get that right and market success will follow close behind.

Like it or not, the future is Big Brother—so let's talk about it.

A number of issues need to be looked at, however, if sentient computing is to be brought into everyday life. Wireless networks will have to merge so that users can roam seamlessly between Bluetooth and WiFi connections at home and mobile networks when travelling. Accurate location information will be important, not only to pinpoint users in the landscape, but also to position them in rooms. Sensors will have to become ubiquitous in products, as well as the environment, to provide the vital contextual

information. And the systems driving sentient applications will have to be able to integrate massive amounts of widely distributed data, so they can be presented to each user in a personalised way.

Programming with space

Once these issues are overcome, new opportunities will emerge for producing human-centred IT. Imagine being able to “program with space”, using information about where you are in your home to control the lighting, ensure that only your nearest telephone rings, or that the television programme you are watching follows you from screen to screen as you move between rooms. Imagine also that the display screen and the computing functions that drive it become separate entities rather than part of the same thing. The movie you were watching on the big screen at home could then continue to play automatically on your mobile handset when you left the house.

The mobile world is getting its share of attention. Both MIT's Oxygen project and a team at the Interuniversitair Micro-Elektronica Centrum (IMEC) in Leuven, Belgium, believe that developing a kind of “Swiss army knife” of mobile electronics is the key to providing sentient computing on the move. At MIT, the all-purpose tool, called Handy 21, combines a PDA with a camera, wireless network, a microphone, speaker and accelerometer.

Meanwhile, the IMEC group has launched its “multi-mode multi-media” (M4) program as a way of delivering any bit of information, anywhere, at anytime. Rudy Lauwereins at IMEC believes that the basic technologies to do this are already available, but have yet to be integrated into a seamless package.

The Belgian group has proposed a flexible information appliance that takes many of the tasks now performed by specialised pieces of equipment (eg, mobile telephony and music playback) and recasts them as software applications running on a powerful, adaptable computing engine. According to Mr Lauwereins, it will be 2006 before the chipmaking processes improve enough to give the device a reasonable battery life.

Once these devices are available, how will they affect people's lives? The European Commission report on ambient intelligence describes a fanciful scenario in which Maria, a businesswoman, arrives at a foreign airport and walks through immigration unchecked, thanks to a wristwatch computer that presents her ID and visa for validation. At the kerbside, a rental car unlocks itself as she approaches and then guides her to a reserved parking bay at her hotel. As Maria enters her room, it adapts to her preferences by adjusting the temperature, lighting and choice of TV and music channels. Later, she talks to her daughter on a video wall while inserting local references into her presentation for the morning using the hotel's special software.

Yes, all science fiction today. Along with hardware and infrastructure problems, researchers still need to work out how to scale up the limited sentient computing systems they are now tinkering with. They also need to create co-operative file systems that work globally, and they need to make it easy for sentient applications to find network printers and screens that are close to users. Beyond that lie touchy issues of security, privacy and permission.

Is privacy something we will trade off for convenience? Sentient computing, with its reliance on knowing where users are, could certainly make the loss of privacy more serious. Dr Hopper at Cambridge University advocates acceptance and debate. Like it or not, he says, “the future is Big Brother—so let's talk about it.” But Dr Hopper has been wearing a location tracking device for the past 12 years—and has learned to live with the loss of privacy and to appreciate its benefits.

Instead of users being tracked constantly, how about using “permission-based” sentient applications, where users have to opt in if they want the benefits? Purists such as Dr Hopper argue that this breaks the sentient computing paradigm. But Dr Zue at MIT likens permission-based systems to having a telephone in the bedroom. We opt to have it because it delivers a useful service, despite the fact that it could also be used to monitor us while we sleep. Perhaps, ultimately, sentient computing will show that privacy is not all it is cracked up to be.

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LAST WORD

Alchemist at large

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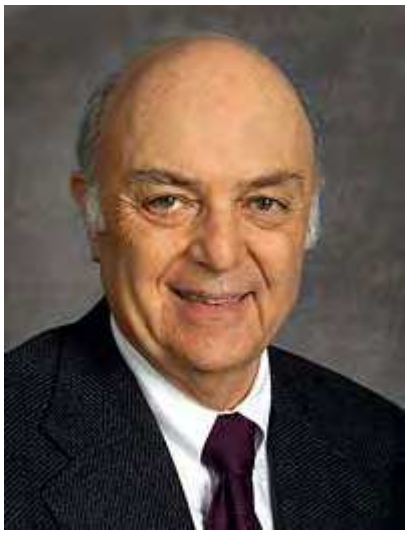
People poke fun at alchemists. “They're underrated,” says Marvin Cohen. Easy for him to say so—he just might be the real McCoy



Material man

IT WAS when he was a graduate student at the University of Chicago in the early 1960s that Marvin Cohen created his first “atomic recipe”. His thesis adviser, James Phillips, had asked him to investigate some optical properties of semiconductors. But when the professor headed off to Cambridge University on sabbatical leave, his student decided to work on a completely unrelated topic instead. While the young Marvin Cohen did not exactly turn lead into gold, he showed that—in theory, at least—certain doped semiconductors could become superconductors. Superconductivity allows for the flow of electrons without any resistance, and is extremely difficult to predict.

Several members of Chicago's physics department had encouraged the aspiring student to pursue the idea. But that did not prevent him from getting increasingly nervous as he awaited the return of his adviser. When the day arrived, the recalcitrant student stayed home, while members of the faculty had a word with Dr Phillips. Surprisingly, he happened to be very understanding, and within a year the thesis was tested and proven right.

This was just the start of an unrivalled record of successfully explaining and predicting properties of matter using quantum theory. As a senior scientist at Lawrence Berkeley National Laboratory and professor of physics at the University of California, Berkeley, Dr Cohen developed a “pseudopotential” theory that allows researchers, with the help of computer programs, to model and predict how solid materials change when put under intense pressure, or when alloying elements are added. Examples of his predictions include several new superconductors, superhard solids and compound nanotubes made of elements other than carbon. With around 650 publications to his credit, the 68-year-old Dr Cohen is among the world's most cited physicists. Jerzy Bernholc, chairman of the American Physical Society's division of computational physics, calls him “a fantastic scientist and a true pioneer.”

He is also mentor to a whole generation of theoretical solid-state physicists. Some of his old pupils and post-doctoral researchers still call him up with problems, says John Joannopoulos, professor of physics at the Massachusetts Institute of Technology (MIT), and himself a former student of Dr Cohen's. Over the past 40 years, Dr Cohen has churned out about 70 postgraduates, many of whom are now doing their own ground-breaking work at such places as MIT, IBM and Bell Labs.

Most recently, Dr Cohen has focused on jump-starting applications in nanotechnology. In the late 1990s, he teamed up with Alexander Zettl, also a professor at Berkeley, to found Nanomix. Compared with other start-ups in the field, Nanomix is doing reasonably well, having recently received a further cash infusion of $9m to develop nanotubes as sensors and hydrogen-storage systems for fuel-cell cars. The tiny tubes, a billion of which would fit into a single strand of hair, look like rolled-up chicken netting. They are hollow, lightweight and strong, making them suitable, in principle, for many tasks. According to Jeff Wyatt, Nanomix's director of business development, the goal is to come up with the first commercial nano-devices—miniature chemical sensors on a silicon chip.

Riotous times

Dr Cohen grew up in Canada and moved to San Francisco with his family when he was 12 years old. His interest in physics took hold while he was a teenager: “I have probably thought about physics every day for the past 50 years.”

Even so, he readily admits that he was not a serious student until years later. Initially, he spent much of his time at Berkeley socialising with his fraternity, playing the clarinet or the saxophone, and going to parties. All that changed when he moved to Chicago for graduate studies. “I really worked then,” he remembers. And it paid off. As a result of his first successful prediction, he was offered a position at Bell Labs and later at Berkeley—a feat not easily accomplished by a novice right out of graduate school.

When he came back to Berkeley in 1964, the campus environment had changed dramatically. The free-speech movement had just begun. Demonstrations happened daily. Being still under 30, Dr Cohen found himself sympathising more with his students than with the university. Yet, he admits, the demonstrations turned into distractions. During the tumultuous spring of 1968, helicopters flew overhead, dropping tear-gas on to the campus. Standing in his office, blinds closed but windows open, he could smell the gas creep into the room—making it hard to get any work done. As a theorist needing only pencil and paper, Dr Cohen could escape the chaos. Since then, cafés and beaches have been some of his favourite places to work.

Because the idea sounded so outrageous, no-one was interested in testing it.

The properties of materials are based on interactions between subatomic particles that are governed by the rules of quantum mechanics. That means, in theory, that it should be possible to use mathematics to calculate how atoms will behave under various conditions. That is relatively easy when only a single atom is involved. But matter is made up of massive numbers of atoms. The possible interactions then become dizzyingly complex.

Inspired by a paper that the famous Italian physicist, Enrico Fermi, wrote in 1934, Dr Cohen found a way to simplify the calculations. The outer electrons of atoms—those that interact with one another to form bonds—are essentially the ones responsible for giving a material its properties. By contrast, the inner electrons are tightly bound to the nucleus and form an atom's core. Instead of solving the enormously difficult task of taking each and every possible electron interaction into account, the pseudopotential describes the relationship between the atom's core and its outer electrons, greatly simplifying the necessary calculations for determining a material's properties. Dr Cohen's computational programs, based on these pseudopotentials, are now used worldwide—and are the basis for his successful predictions.

In the 1960s and 1970s, Dr Cohen used an early, empirical theory of pseudopotentials to investigate the properties of semiconductors. One of his most widely cited papers, published in 1966 in the *Physical Review*, explains the band structures (which essentially describe how electrons will behave) of 14 different semiconductors. “It revolutionised the field,” says Dr Bernholc, paving the way for the development of many successful applications in the industry. Today, most electronic devices, ranging from wireless networks to optical communications, contain one or more of the semiconductors described in the 1966 paper.

In the early 1980s, this time from first principles and without any experimental data, Dr Cohen postulated that silicon could turn into a superconductor when put under intense pressure. Because the idea sounded so outrageous, nobody was interested in testing it. He eventually persuaded a friend in Grenoble to do an experiment, and was proved right in 1984. “After that,” he recalls, “it was easier to get people to listen.” James Davenport, an associate director at Brookhaven National Laboratory in New York state, says: “Cohen's work on superconductivity is absolutely beautiful.”

A few years later, Dr Cohen became interested in the properties of diamonds. Widely known as the hardest natural material, they achieve a perfect ten on the Mohs scale of hardness. But diamonds are not as immutable as the speed of light, notes Dr Cohen. Tinkering with the crystal structure of carbon atoms in his head, he thought about ways to arrange them in even closer proximity—a key to what makes diamonds so hard. In the process, he came up with carbon nitride, a new class of superhard solids.

Atomic juggler

Complementary skills

It was around this time that Dr Cohen teamed up with Alex Zettl, an experimental physicist at Berkeley. Dr Zettl was impressed by his partner's abilities: “Marvin could predict the properties of real materials, things that could actually be made in the lab.” In return, Dr Cohen says: “Alex is a genius with his hands.”

When nanotubes were discovered in 1991, Dr Cohen wondered if they could be made from materials other than carbon. “It actually occurred to me on an aeroplane that I could do this with boron and nitrogen.” He returned to Berkeley excited about this possibility. Unfortunately, his students were not. None wanted to do the calculations, and so the project was shelved. Six months later, however, one graduate student finally offered to help. “Sure enough,” says Dr Cohen, “we found out it was stable, and Alex went into the lab and made it.” Dr Zettl notes: “It had exactly the properties Marvin predicted.”

In the late 1990s, the team founded Covalent Materials, later renamed Nanomix. Based in neighbouring Emeryville, the start-up is seeking to create a platform for developing commercial applications of nanotubes. “It's the natural outgrowth of our success at the university,” comments Dr Zettl.

When not moving atoms around in his head, Dr Cohen plays the clarinet, keeps himself fit by running, and is actively involved in politics—pushing for the continued influx of talented foreign students (which make up about half of his group at Berkeley). As vice-president of the American Physical Society, a body with about 45,000 members, he discusses policy issues with colleagues and—another one of his pet peeves—tries to get American high-school pupils interested in physics.

Dr Cohen, now a consultant for Nanomix, has eyes on other endeavours. One is to predict nanotube applications that are still five to ten years away. One of his favourite ideas is a random computer made of “nanocubes”—essentially a pile of nanotubes. It is a wholly different paradigm of computing, says Steven Louie, who was one of Dr Cohen's students in the 1970s and is now a professor at Berkeley, and a collaborator on the project.

Generally, people like computers to behave in predictable ways, says Dr Louie. But here you build software to accommodate what you find. Then you feed that knowledge back, educating the computer about itself. If you do not like what it does, Dr Cohen adds, you can give it a lobotomy with a jolt of electricity, and start all over again. A speck of nanocubes, he calculates, could hold the information in all the books in the world. Four wine-bottles-full would have the storage capacity of all the human brains. “It sounds like science fiction,” he admits. But, then, Marvin Cohen has a record of turning fantasy into fact.

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The tech industry

Is Big Blue the Next Big Thing?

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IBM is poised to lead Silicon Valley's struggling tech firms out of recession

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SUCH was the impact of the technologies that emerged from Silicon Valley in the 1990s that Americans still turn west, to the business parks of California, to take the temperature of the tech industry. There, the climate surrounding the likes of Intel, Cisco and Oracle (now embroiled in a three-way tussle to consolidate the shrinking business-software market) remains palpably chilly. Yet as the west coast's miseries continue, the mood 3,000 miles to the east is quietly improving. In the woods dotting its 200-acre headquarters in Armonk, New York, International Business Machines, the industry's ancient, lumbering giant, has begun to wake up.

Despite management-guru plaudits for saving itself from extinction a decade ago, IBM never won much respect from the techno-snobs of Silicon Valley. Enraptured by the latest whizzy chip or clever bit of software, California's engineers paid little attention to IBM's plodding transformation in the 1990s from a maker of computer hardware into a seller of business services. Even now, the way IBM has weathered recession is dismissed as the result of some lucky bets on technology.

But Big Blue's gathering power may run deeper than its clever championing of Linux, an “open-source” operating system currently fashionable among business customers. The technology market has gone through wrenching changes since every big firm in America dreamed of becoming a dotcom (or feared being devoured by one). Technology no longer sells itself simply because it is new. Real power is flowing to those firms that have begun to work out not what to sell, but how to sell it.

IBM's answer to this problem was its purchase, last July, of PwC Consulting. This deal merged PwC's business consulting with IBM's hardware, software and IT consulting businesses. Apart, both industries were failing. Having oversold the promise of technology during the 1990s, IT firms were struggling to cope with angry customers, some of whom had spent hundreds of millions of dollars on technology “investments” that produced little business benefit. Meanwhile, business consultants such as Accenture, PwC Consulting and even McKinsey sold new business strategies, often tied to downstream technology

investments, designed to turn ageing firms into hot, young growth companies. Neither industry delivered. As each blamed the other, credibility collapsed.

By packaging business consulting with IT, IBM now hopes to sell its customers full, all-singing, all-dancing, business “solutions”, rather than vague promises about the benefits of new hardware or software. In Detroit, IBM consultants are working to help the car industry use data sucked out of engines during services to reduce car recalls. At a research centre near White Plains, New York, technologies have been combined to allow people to shop from home via an infra-red scanner built into a handheld computer. IBM's retail-industry specialists are working with supermarkets and consumer-goods firms to introduce “smart tags”—efficiency-boosting chips that may soon replace the bar-codes on everything from canned beans to razors. Its media consultants are helping customers to introduce a technology that lets them scour the web for audience reactions to the latest film or music release, which may even bring science to bear on Hollywood's $100m gambles.

Making the elephant dance

IBM hopes that from these consulting engagements will cascade demand for its software, hardware and systems specialists. From the customer's perspective, however, IBM is now selling something quite different—a commitment to improve a specific part of the business, with payment more clearly linked to results. The famously weak accountability of consulting and IT should improve. As Steve Milunovich of Merrill Lynch put it recently, the customer now has “one throat to choke”.

The trick, then, will be to push the PwC consultants to the front of the firm's customer relationships. Almost a year after the merger, it is not clear how far the firm's boss, Sam Palmisano, has got with this task. One clue is the way the sales pitch has begun to change. Six months ago, IBM's appeal to “on-demand” computing appeared to point customers to a technology (the old sales model) that the firm was claiming it could supply: “utility”, or “grid” computing, in which computing power is configured in a way that allows customers to buy variable amounts “on demand”, just as firms do from other utilities, such as electricity or water. But recently, “on demand” has acquired a broad, business-consulting message (the new sales model), pointing customers to the ability of technology to increase the flexibility of their businesses in response to volatile, unpredictable customers—thus making the leap to an “on-demand” business.

IBM's scientists also seem enthusiastic about the firm's new direction. Mr Palmisano has put a group of engineers to work building a formal, general model of the connections between a firm's strategy, its operations and its underlying IT infrastructure. The eventual aim is to build a model so sophisticated that, as strategy changes at the top, new systems configurations are spat out automatically for the IT department at the bottom. At a time when other consultants are forlornly seeking a big idea to replace discredited old ones, this is striking in its ambition.

The acid test, however, may be how well IBM's consultants work with its salesmen. Mr Palmisano has simplified that task somewhat, having reorganised his sales team so that customers deal with one salesperson instead of a bombardment from every product division. But there is a potential conflict in IBM's vertically integrated model. Although the company has won a measure of respect for its partial untying of consulting from sales, some PwC consultants, at least according to rivals, are shocked by the pressure to push IBM products—“blue on blue”, as the practice is known inside the firm. Optimists deny that this is evidence of integration problems that are typical after a big merger, particularly between “people” businesses. IBM anyway insists piously that its consultants are not under pressure to choose in-house products.

Another risk is that customers will resist IBM's bearhug strategy, and shop from different suppliers. No doubt some firms will resist IBM's embrace entirely. But for everybody else, the cost and complexity of the job facing corporate IT departments—which, after all, also lost credibility after the tech bubble—only keeps rising. Even rivals admit that, in key markets, IBM is gaining impressive amounts of ground.

If IBM gets it right, on the other hand, and the firm escapes unscathed from legacies of the past decade (earlier this month IBM said that regulators are investigating its accounts filed in 2000-01), its new model could trigger broad, industry-wide changes. Sensing the danger, a rival group of technology firms has already begun to gather around now-struggling Accenture and mighty Microsoft, which feels the Linux threat to its own operating systems. And IBM's use of Linux is also encountering legal problems (see article). Having previously chosen not to overpay for PwC Consulting, HP may soon feel the need to look for another consultancy. So, too, might EDS, whose purchase of A.T. Kearney, another consulting

firm, has not worked well. The engineers of Silicon Valley may still cling to the hope of finding, at long last, the Next Big Thing—a technology so whizzy it makes all those share options valuable again. But what if tech's next big thing turns out not to be a technology at all, but a better way to make it work?

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IBM and Linux

Unixed

Jun 19th 2003 | SAN FRANCISCO
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As IBM's legal battle over Linux intensifies, other firms hope to benefit

Get article background

IS THE escalating legal dispute between IBM and SCO Group, an obscure Utah software company, more than a storm in a teacup? It is hard to say. The case hinges on both legal contracts and programming codes, neither of them simple. At issue is the tangled heritage of the Unix operating system, and its relationship to Linux, a free operating system (with a penguin mascot) built by programmers collaborating via the internet.

Unix was originally created at AT&T in the 1970s, before splintering into multiple versions. IBM licensed Unix from AT&T in the 1980s, and then modified it to create its own version, called AIX. After several changes of ownership, the rights to Unix ended up in the hands of SCO. Meanwhile, enthusiasts independently developed an entirely new version of Unix, called Linux, which is becoming increasingly popular, thanks in part to strong support from IBM.

Battle commenced in March, when SCO accused IBM of illegally copying code from Unix into Linux, and claimed $1 billion in damages. In May, SCO wrote to 1,500 large firms, claiming that because Linux contained code stolen from Unix they could face legal action for using it. On June 16th, SCO revoked IBM's original contract with AT&T, filed for an injunction requiring IBM to recall and destroy all copies of AIX and raised its damages claim to $3 billion.

IBM denies any wrongdoing. It insists that its contract with AT&T is “irrevocable, perpetual and fully paid up”, and that its customers have nothing to worry about. Whether there is any merit in SCO's claims will become clear only when the matter comes to court. But SCO is widely assumed to be gold-digging. By casting doubt on the legality of Linux, and suing a deep-pocketed company that has championed its use, SCO seems to be trying to get IBM to buy it off. That IBM has not done so suggests that it is confident of being in the clear.

Other firms have sought to capitalise on the confusion. In May, Microsoft signed a licensing deal with SCO, indirectly supporting its attack on Linux and other open-source software, which poses a long-term threat to Microsoft's proprietary kind. Then Novell, a software company that briefly owned the rights to Unix, entered the fray by criticising SCO. This was clever, as Novell is rebuilding its product line on a Linux foundation, and its attack on SCO played well among Linux supporters.

This week it was the turn of Sun Microsystems, a computer maker that sells Solaris, its own version of Unix. Sun is mounting an advertising campaign to encourage IBM customers to switch to Solaris from AIX. Its boss, Scott McNealy, boasted that Solaris is “free and clear, with no legal or intellectual cloud hanging over it”, a claim endorsed by SCO. So far, however, SCO's lawsuit seems to have done little to harm IBM or hamper the adoption of Linux by large firms. Indeed, the attention the case is now receiving is a vivid illustration of how important Linux has become.

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Lawsuits against firms

The alien problem

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An obscure American law is exposing companies to a world of problems

AMBITIOUS, entrepreneurial businesses often search for fresh opportunities overseas. Usually, this means going to new places, but for America's ravenous plaintiff lawyers the opportunity seems to lie in bringing the world's troubles home and dragging American companies and other multinationals back with them. The strategy hinges on the use of a law, the Alien Tort Claims Act (ATCA)—or Alien Tort Statute—which had been largely ignored for 190 years before bursting forth in a flurry of suits that seek to make American firms, or firms with strong ties to America, pay damages for the wrongs committed by countries in which they have operated.

On Tuesday, oral arguments were heard by a rare “en banc” panel of the ninth circuit Court of Appeals in San Francisco—which is known for its expansive view of the law and a willingness to cause business apoplexy. The suit asks the court to review a decision by three of its judges to reverse a lower court ruling that dismissed charges against Unocal, a California-based oil company, of violating the ATCA. Unocal was sued in connection with human-rights abuses in Myanmar.

The facts of the case are muddy. But the main question raised is clear enough: why is Unocal before an American court for actions it did not take, and which were done neither in America nor to an American?

A decade ago, Unocal bought a minority stake in a pipeline being built by Total, a French oil firm, that ran through Myanmar, a country run by one of the world's most brutal regimes. Evidence suggests that Myanmar's military played a supporting role in the construction, at terrible cost to the local population. There were murders and rapes, as well as forced labour. Myanmar's citizens cannot sue in Myanmar, and were blocked from suing their government in America by the doctrine of sovereign immunity. Efforts to sue Total in America failed because the French firm has too little presence in America to fall under the jurisdiction of its courts.

Nobody claims that Unocal committed atrocities. But there is some evidence (the muddy part of the case) that it was aware of what was going on. The appeals court held that awareness could be enough to make Unocal in part responsible for the crimes. But even in the Nuremberg war-crime trials, arguments of aiding and abetting largely failed. Many recent Holocaust reparation cases have rested on direct participation, either through the use by a firm of slave labour or its seizure of bank accounts or insurance policies. Even more controversial, however, is the claim that Unocal, an American firm, can be held responsible for this under the ATCA, a law that merely says that district courts will have jurisdiction for civil actions by an alien (non-resident) for torts (harms) “committed in violation of the law of nations or a treaty of the United States.”

The law was included in America's first Judiciary Act of 1789. It is unclear why. Perhaps it was meant to respond to the international problem of piracy or to attacks on diplomats. Among the objections to its use raised by the Bush administration, which filed a brief in support of Unocal, is that the law merely defines jurisdiction for which court may hear a case. It does not define the set of claims upon which suits can be based. The administration also objects to the court's application of “international law”, a mushy concept at best, but one that in this case emerged from the court's consideration of various claims, such as the Universal Declaration of Human Rights, that Congress either has not ratified, or has done so in a way not intended to create rights enforceable by individuals in American courts.

If Unocal is found liable, many similar cases will follow. New York's federal district court has cases pending under the ATCA against Fujitsu, Unisys, Citigroup, Credit Suisse, IBM, Deutsche Bank, Dresdner Bank, ExxonMobil, Ford and GM. An existing case focuses on Royal Dutch/Shell's connection to human-rights abuses in Nigeria. In Houston an action was filed against ExxonMobil and Shell. The list goes on

and on.

Thus a Delaware-registered firm operating in Peru was (unsuccessfully) sued in New York for causing pollution; Texaco was sued for polluting in Ecuador. Coca-Cola was sued for actions taken by the Colombian government and one of its bottlers. A popular target is American firms that did business in South Africa during apartheid. Such cases usually claim that just by operating in South Africa the firms lengthened the life of an immoral regime and thus were responsible for its actions.

The potential costs of the litigation, if successful, could be devastating to international business, particularly in emerging markets, says Owen Pell, an attorney with White & Case, a New York law firm. Even if the Supreme Court ultimately limits this use of the ATCA, the uncertainty will affect many business decisions in the meantime. Already, reports are circulating that plaintiff lawyers plan to file suits against firms doing business in China, Indonesia, the Middle East, Pakistan, the former Soviet Union, and much of Latin America. And why stop there? The ATCA, says Mr Pell, could allow an Iraqi citizen to sue, in America, a French firm with a significant American presence that did business in Iraq. And so on. An opinion on the Unocal case is likely within four months. It will not be the last word on the ATCA.

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Oil and corruption

Shine a light

Jun 19th 2003
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What chance a little honesty?

SHOULD oil and mining firms be made to fess up? Secrecy clauses often forbid them to reveal details of contracts with developing countries. That makes it all too easy for crooked rulers to extract all sorts of “facilitation payments” from firms that, on the whole, would rather not pay bribes.

Now, Britain's prime minister, Tony Blair, wants to lighten the darkness. This week, he chaired a conference, dubbed the Extractive Industries Transparency Initiative, at which he called for a voluntary agreement to disclose payments. Several oil firms, including BP and Royal Dutch/ Shell, and various developing-country governments, attended and made positive noises. A group of international fund managers threw their weight behind Mr Blair. Mari Alkatiri, East Timor's prime minister, promised transparency over his country's large deposits of natural gas—including publishing details of its new $1.5 billion gas deal with America's Conoco Phillips. And on June 18th Nigeria and São Tomé promised to publish in full the licensing results for a shared oilfield.

Yet transparency may come only slowly. George Bush may have to choose between backing his new friend, Mr Blair, and his older friends in the oil industry, who fear that voluntary disclosure would be but a brief stopping point on the way to mandatory rules, which they fiercely oppose. This time, Mr Blair may lose. If American oil firms do not comply, their European rivals are unlikely to. Going public while your competitors stay silent risks a backlash—as BP found out after disclosing its payment record in Angola in 2001. In future, it is unlikely to make disclosures except under an industry-wide accord.

The real villains are crooked politicians in oil-and mineral-rich countries. It is government transparency—both about what revenues are received and how they are spent—that is the enemy of such corruption. This week, Mr Blair offered British help and £1m ($1.7m) to any developing country willing to start a pilot scheme on disclosure. As George Soros has argued, a better strategy would be to make such transparency a condition of IMF and World Bank loans.

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About sponsorship

Television in the Arab world

All that Jazeera

Jun 19th 2003
From The Economist print edition

Despite its popularity, al-Jazeera is struggling to break even

STAFF at al-Jazeera call the satellite-TV station the CNN of the Middle East. A series of scoops, notably several tapes sent in by Osama bin Laden, have made the Qatar-based station famous everywhere. It claims to be the news channel of choice for 35m people in the Middle East.

AP

Al-Jazeera's biggest star

Normally, those viewers would bring in big advertising revenues. Indeed, the station, which started with a loan of $150m from the government of Qatar in 1996, hoped to be profitable and financially independent by 2001. That year it said it was considering an initial public offering of shares. But so far, its money-making abilities have been held back by the fact that several Gulf governments have told businessmen not to advertise on it.

Ad executives say that in Saudi Arabia, which comprises about 60% of the Gulf's advertising market, there is an unofficial but total ban on advertising with al-Jazeera, because of its political content. Likewise in Kuwait and Bahrain. This also scares away multinationals that would otherwise love to access al-Jazeera's large audience, according to Samar Salman at MindShare, a media buyer in Beirut. Some, such as Unilever, a consumer-goods giant, and BMW, a carmaker, have advertised on al-Jazeera. But most firms are wary of promoting shampoo or luxury cars alongside the station's famously bloody reports.

Al-Jazeera needs over $30m a year to cover operating costs. The $150m loan from Qatar is spent, but the government keeps giving it money because it regards al-Jazeera as a part of its plans for political liberalisation. This has brought the station criticism for allegedly never attacking the country that backs it, says Mohammed El-Nawawy, author of a book on al-Jazeera. Other critics worry about the replacement last month of al-Jazeera's director-general, after Britain's *Sunday Times* reported that Iraqi agents had infiltrated the network. Al-Jazeera said the spy charges were unproven and unrelated to the change of boss.

Al-Jazeera will not say how much revenue it gets or where it comes from, but it says it does well by selling footage to other news channels. It has agreements with Fox News, CBS, CNN and several European broadcasters. Its standard licensing agreement with Fox News brings in $10,000 a month, and it charged more during the war. But such revenues fluctuate with foreigners' interest in the Middle East. And al-Jazeera has competition from Abu Dhabi Television and others selling footage.

Thanks to its backing from Qatar, al-Jazeera still has ambitious plans. It hopes to launch an English-speaking channel in 2004 (delayed from this year). A documentary channel and a sports channel will follow. Its news coverage already sells to 150,000 households in America, mostly Arab families. With an English-language service, the station hopes to win advertising revenue from American and European firms. Next year, it will set up a media training centre in Doha with the help of the BBC and the Thomson Foundation, a Cardiff-based media-training charity.

Might it become a target of one of the global media giants? Not unless Arab governments adopt a more liberal attitude to advertising. Still, James Murdoch, son of Rupert and boss of Star, News Corp's Asian satellite-TV business, which broadcasts in the Middle East, says that the region, with its young populations, has great long-term potential as an advertising market, especially if Arab programmers become as keen to produce light entertainment as news. As for al-Jazeera, a spokesman for the network says it would consider any proposal that guaranteed editorial independence. Could the Murdoch clan offer that?

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African media

Watching you, Africa

Jun 19th 2003 | JOHANNESBURG
From The Economist print edition

Cross-border media arrives

A BUBBLING jacuzzi, 12 housemates, a shower-hour, endless wine and inane chatter. The latest launch of a “Big Brother” reality-TV show has all the usual ingredients, plus a twist. Each contestant is drawn from a different African country. A brash Kenyan is irking his housemates, the Zimbabwean has done a strip-tease, romance is blooming between the Ugandan and the South African. The international flavour and beautiful bodies of “Big Brother Africa” are a hit. The show is also reminding the continent's media firms that there is an audience beyond their own country.

Over 1.2m households, in 48 African countries, now subscribe to DSTV, which shows “Big Brother” as part of a collection of satellite channels sold by a South African company, MultiChoice Africa. Satellite TV is still mostly the preserve of elites—Angola's few rich parade their wealth with dishes atop ramshackle homes—but deals with local stations mean that some of MultiChoice's programming is rebroadcast to millions more viewers. Other firms, such as TV-Africa, also provide content (plans for a pan-African soap opera are under way) to fill hours of prime-time for dozens of African terrestrial broadcasters, in exchange for the right to sell adverts. Who is interested? Mobile-phone companies mostly, judging by the commercial breaks in “Big Brother Africa”, which implore viewers to phone in their votes.

Print may follow broadcasting's lead. Nduka Obaigbena plans to add to his Nigerian newspaper interests by starting a daily broadsheet in South Africa. The first dummy issue of South Africa's *ThisDay* was produced this month in Johannesburg. But breaking into South Africa will be tough, so he may instead buy South Africa's most-read paper, the *Sowetan*, which is for sale. Rival South African newspapers are hunting for readers abroad. *BusinessDay* and the (now Zimbabwean-owned) *Mail and Guardian* are on sale in countries, such as Botswana and Namibia, where South African retailers have stores.

Anton Harber, who started the *Mail and Guardian*, and other papers, says there is no pan-African ad market yet. Without it, growth will be slow. DSTV is looking farther afield, including to Asia. But newspaper owners will keep seeking out new territories in Africa. At least they have some material that all of Africa is interested in: Who's next in the jacuzzi?

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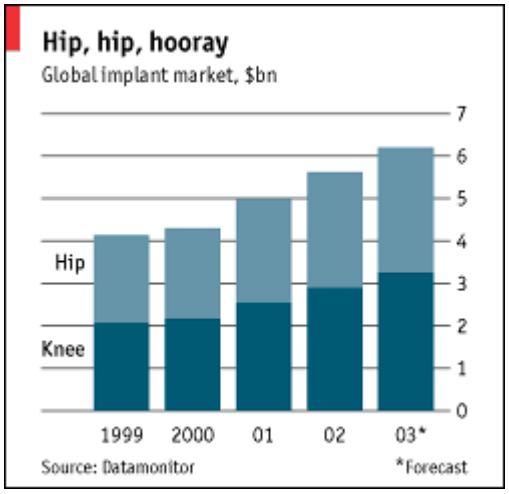
Medical devices

Joint effort

Jun 19th 2003
From The Economist print edition

A bidding war for Centerpulse



INTERESTING firms are rarely left to their own devices. Take, for example, Centerpulse, a Swiss artificial-joint maker. In March, the firm agreed to be bought by Smith & Nephew (S&N), a British medical-device company. On June 19th, however, Centerpulse became the subject of a bidding war when Zimmer, an American rival, made a formal offer for the firm, of $3.1 billion. That was a 19% premium over S&N's bid. S&N is widely expected to raise its offer, but Zimmer's stronger finances may triumph in the end.

Centerpulse's popularity reflects a sharp recovery from 2000, when, as Sulzer Medica, it was hit by a series of product-liability crises, stemming from contaminated joint implants, that eventually cost it $725m in damages. Renamed, and under new management, the firm is now the European leader in hip implants, has a strong position in artificial knees, and boasts a growing presence in spinal devices. Hip and knee implants account for roughly 40% of the $14 billion global market in orthopaedic devices, according to Datamonitor, a research consultancy (see chart). The market is growing by over 10% a year, thanks to ageing baby boomers keen to stay active in later life, plus a steady stream of new and costlier devices coming to market. Another short-term fillip, says Thomas Thaler of Bank Julius Baer, comes from “revision surgery”—replacing a generation of earlier hip implants that are now wearing out.

Yet the consolidation of which the battle for Centerpulse is part may owe as much to suspicions that the double-digit annual revenue growth enjoyed by orthopaedic device-makers will not last much longer. In America, implant prices have been rising by 5% a year. Michael Weinstein, an analyst with J.P. Morgan, reckons that American hospitals, big buyers of implants, may start to refuse to accept these price hikes. Such pressure in America, along with growing cost containment in Europe, may push more implant makers into mergers and their hoped-for cost savings.

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Advertising

Carving up Cordiant

Jun 19th 2003
From The Economist print edition

The battle for Cordiant highlights weakness in the advertising business

THIS week Sir Martin Sorrell was back doing what he loves best: hammering out a last-minute takeover and making headlines. On June 19th, the boss of Britain's WPP, one of the world's three leading advertising agencies, announced that he had trumped Publicis of France, the fourth-largest, in a bid to buy Cordiant, a troubled, small British rival.

Demerged in 1997 from Saatchi & Saatchi, Cordiant masked its deteriorating underlying business with acquisitions, amassing over £260m ($439m) of debt. In a dramatic turn this week, a joint bid by Publicis and Cerberus, an American private-equity fund, was challenged by WPP—as Cordiant teetered on the brink of bankruptcy. Sir Martin has agreed to buy the firm for about £266m; most to repay debt, with only some £10m going to Cordiant's unhappy shareholders.

Rather than signal confidence in the outlook for advertising, the battle for Cordiant seems to be an opportunistic bid to buy growth. Global ad spending may have passed its nadir, thanks to America's recovering TV market. But, says ZenithOptimedia, after nominal growth of 0.7% in 2002 (down in real terms), revenues are likely to grow globally by 3.1% this year and 4.9% in 2004. Not bad, but no boom.

Crucially, the agencies cannot capture all of this growth. Lately, clients have learnt to be parsimonious with their marketing budgets. Pressure on price is increasing as advertisers question the 12-15% operating margins still typical of the ad agencies—and, indeed, even the effectiveness of traditional advertising.

The agencies are busily diversifying into fee-gathering businesses such as branding and direct marketing to reduce revenue volatility caused by the traditional cycle in ad spending. According to Morgan Stanley, commission income from advertising accounts for only 40% of revenues at Publicis and just 26% at WPP. As a result, the bank's forecast of nominal market growth of 2.5% this year will translate into internal growth of just 2% at Publicis, 0.2% at WPP and a fall of 4.3% at Havas. Only Omnicom, the world number one, is forecast to beat the market in 2003, with organic growth of 3.3%. Interpublic, the other of the big three, is accused of overstating profits and is expected to shrink by 3.8%.

Cordiant's big accounts include BAT and Pfizer (the latter shared with WPP). It is hard, says Sir Martin, to pick off clients one by one. “Advertisers don't like to move if they can avoid it.” Cordiant also gives WPP greater exposure to Asia—Sir Martin raves about the potential for growth in China—and expands WPP's menu of marketing services, such as in health care, design and direct marketing, which clients want as an alternative to traditional media.

But Sir Martin concedes that the bid is partly defensive—and that opportunities for consolidation are dwindling. “Cordiant is the last move on the chess-board,” says one analyst. There are few independent agencies of any size left. Moreover, synergies are hard to reap when each agency must be managed separately to avoid client conflict. And while global clients want global services, getting different parts of a marketing empire to work together is hard. The best hope for generating economies of scale lies in acquiring firms that buy media space such as airtime or ad pages—one such firm, Aegis, is said to interest WPP. After that, the spotlight will be back, ominously, on internal growth.

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Europe's defence industry

Revamping fortress Europe

Jun 19th 2003
From The Economist print edition

Europe's defence companies are flying towards rationalisation

THE Paris Air Show this week seemed to be all about huge orders for Airbus wide-bodied jets from Emirates, Qatar Airways and Korean Air. But it was also an occasion for speculation about mergers in the defence industry. The Airbus orders are important for its 80% owner, European Aeronautic Defence and Space company (EADS). With its airliner division streaking ahead of America's Boeing, EADS is in a better position to work on building up its less successful military and space businesses: some 98% of the company's pre-tax profits come from Airbus. But with so many top Americans patriotically snubbing the event, transatlantic collaboration in the defence industry is becoming harder, just when Europeans most need it.

The big problem for European defence companies has long been how to break into America, which accounts for half of the world market for defence goods and is growing faster than Europe. America spends some 4% of its GDP on defence (some $400 billion is planned next year) while Europe spends barely half as much. The Pentagon's R&D budget will rise by 17% this year, and spending on new hardware will go up by 15%.

As America races ahead, the Europeans are left floundering. They could try to catch up on their own (unlikely without a big rise in defence spending and progress in joint procurement, along the lines of the Eurofighter, pictured). Or they could seek help from across the Atlantic. The British see American partnership as the answer; the French and Germans, inevitably, are inclined to consolidate and build a fortress Europe to match fortress America. In neither continent are foreigners completely free to own defence assets.

AP

Flying higher than Europe's defence firms

Even before the rift in relations between America and old Europe over the war in Iraq, there was much distrust in America about, for instance, granting the French access to defence technology, for fear that it would end up in dangerous hands. The only significant sales for the continental Europeans in America have been of helicopters and marine surveillance aircraft, which are in short supply because of America's huge homeland security programme to protect its coasts.

BAE Systems is the exception to the rule that Europeans cannot crack America. Whereas EADS and Thales, a big French defence company, have barely 1% of their sales in America, BAE has 21%, according to Nick Fothergill of Banc of America Securities. The British company's strength comes from subsidiaries acquired when it bought GEC-Marconi's defence interests in the late 1990s. Grouped under BAE North America, these have been run at arm's length from London for security reasons. But they ensure that BAE is taken seriously in America. It has a big stake, for instance, in the F-35 fighter project, likely to be the biggest military order ever, worth $200 billion.

On pain of exclusion

Philippe Camus, co-chief executive of EADS (a Franco-German-Spanish company), wants to buy Thales. It would help EADS build up its defence offerings, including the fancy electronics and systems integration that now account for so much value. But Thales dismisses any suggestion of a marriage. There are

rumours of other suitors. BAE'S chief executive, Mike Turner, even let slip that a proposal to merge with Thales had been made by the French company's boss, Denis Ranque. Mr Ranque promptly denied this, and BAE back-pedalled. Relations between BAE and Thales have been strained after the French firm's design for two new aircraft-carriers was chosen by the British government in preference to BAE's. Although BAE won the overall contract, the design will be French.

There could be more troubles ahead for BAE. Last spring, it was outbid for TRW, a top American defence firm. This was partly because BAE's problems at home caused its share price to slump. The deal would have enabled BAE to join the inner circle and become a Pentagon prime contractor. But as there are no other American firms it could afford, BAE is now excluded from that elite.

Mr Turner makes no secret of the fact that BAE's future lies in America. There are constant rumours of possible mergers with Boeing or Lockheed Martin. Neither Boeing nor BAE denies that there has been talk: Boeing's chief financial officer, Mike Sears, even says Boeing is closer to BAE than to any other firm.

Would BAE be an attractive acquisition for Boeing? Its naval shipyards have suffered cost over-runs and delays. The latest rumour to be denied is that BAE might sell its naval yards to General Dynamics, a large American defence contractor that is big in shipbuilding and also interested in expanding in Europe. Such a deal could make BAE even more attractive to Boeing.

There are plenty of other questions about BAE's future. Its huge, long-running contract with Saudi Arabia, known as al-Yamamah, accounts for more than a quarter of its pre-tax profits, according to Mr Fothergill. But this is declining. The true financial performance of the firm is not easy to pin down, not least due to frequent surprise provisions in its accounts.

There are also restrictions on individual shareholdings, although this week Mr Turner said these did not amount to a barrier to being taken over. A merger could, however, go ahead only with the approval of the British government. If BAE were ever to land in the arms of Boeing, the British's company's one-fifth stake in Airbus would have to be sold, not least for antitrust reasons. Given Airbus's success, some analysts reckon that stake could be worth as much as $6 billion.

Who might buy it? EADS, obviously. But another potential buyer might be an American private-equity group. One such, the Carlyle Group, is nosing around the European aerospace industry in search of bargains. *Les Echos*, a French newspaper, has reported claims that Carlyle is an agent of the CIA, which probably says more about French anti-Americanism than about American activities. Carlyle is buying the aerospace arm of the troubled Fiat group, Fiat Avio, with an Italian partner.

On the eve of the Paris show, the French defence minister, Michèle Alliot-Marie, said she was worried about American investors taking over defence assets in Europe, pointing to the recent purchase of HDW, a German naval shipyard, by One Equity Partners, an American investment fund. But Europe's defence firms must do something. It might be another five years before Thales and EADS combine—or BAE secures a future across the Atlantic. But one day it will happen.

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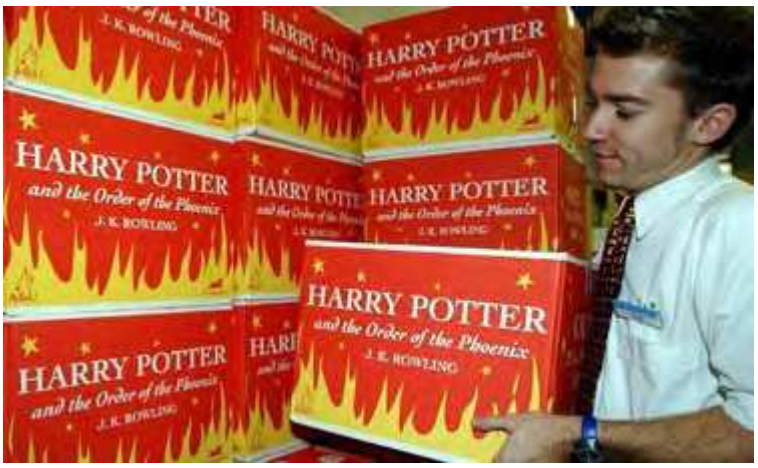
Face value

Harry Potter and the merchandising gold

Jun 19th 2003
From The Economist print edition

EPA



Surprisingly, the Harry Potter launch shows new restraint in the hype business

PERHAPS only a small boy training to be a wizard at the Hogwarts school of magic could cast a spell so powerful as to create the biggest book launch ever. Wherever in the world the clock strikes midnight on June 20th, his followers will flock to get their paws on one of more than 10m copies of “Harry Potter and the Order of the Phoenix”. Bookshops will open in the middle of the night and delivery firms are drafting in extra staff and bigger trucks. Related toys, games, DVDs and other merchandise will be everywhere. There will be no escaping Pottermania.

Yet Mr Potter's world is a curious one, in which things are often not what they appear. While an excitable media (hereby including *The Economist*, happy to support such a fine example of globalisation) is helping to hype the launch of J.K. Rowling's fifth novel, about the most adventurous thing that the publishers (Scholastic in America and Britain's Bloomsbury in English elsewhere) have organised is a reading by Ms Rowling in London's Royal Albert Hall, to be broadcast as a live webcast. Hollywood, which owns everything else to do with Harry Potter, says it is doing even less. Incredible as it may seem, the guardians of the brand say that, to protect the Potter franchise, they are trying to maintain a low profile. Well, relatively low.

Ms Rowling signed a contract in 1998 with Warner Brothers, part of AOL Time Warner, giving the studio exclusive film, licensing and merchandising rights in return for what now appears to have been a steal: some $500,000. Warner licenses other firms to produce goods using Harry Potter characters or images, from which Ms Rowling gets a big enough cut that she is now wealthier than the queen—if you believe Britain's *Sunday Times* rich list. The process is self-generating: each book sets the stage for a film, which boosts book sales, which lifts sales of Potter products. Globally, the first four Harry Potter books have sold some 200m copies in 55 languages; the two movies have grossed over $1.8 billion at the box office.

This is a stunning success by any measure, especially as Ms Rowling has long demanded that Harry Potter should not be over-commercialised. In line with her wishes, Warner says it is being extraordinarily careful, at least by Hollywood standards, about what it licenses and to whom. It imposed tough conditions on Coca-Cola, insisting that no Harry Potter images should appear on cans, and is now in the process of making its licensing programme even more restrictive. Coke may soon be considered too mass market to carry the brand at all.

Harry Potter is licensed in two ways. There are “artefacts”, which reflect things seen in the film but do

not necessarily have Harry Potter's name emblazoned on them. Examples include the magician's favourite Bertie Bott's Every Flavour Beans, made by California's Jelly Belly Candy Company, a “master jelly-bean maker” that has come up with flavours described as earwax, sardine and vomit. The other part of the programme kicks in at the time when each movie comes out. Then the big boys with global licences arrive: Lego to make construction kits (build your own Hogwarts castle), Mattel to make Harry Potter toys, and Electronic Arts computer games—including, finally, a chance to play the obscure game of Quidditch (a bit like an aerial version of polo, but with the contestants flying on broomsticks).

The deal with Warner ties much of the merchandising to the films alone. There are no officially sanctioned products relating to “Order of the Phoenix”; nor yet for “Harry Potter and the Prisoner of Azkaban”, the film of the third book, which is due out in June 2004. Warner agrees that Ms Rowling's creation is a different sort of commercial property, one with long-term potential that could be damaged by a typical Hollywood marketing blitz, says Diane Nelson, the studio's global brand manager for Harry Potter. It is vital, she adds, that with more to come, readers of the books are not alienated. “The evidence from our market research is that enthusiasm for the property by fans is not waning.”

A (trainee) wizard idea

Lest you doubt, as you seek in vain to escape the barrage of hype this weekend, that Harry Potter is evidence of a new conservatism in Hollywood merchandising, consider this, and thank your lucky stars: a mere 75 or so product licences have been issued for Harry Potter merchandise in America, and even fewer elsewhere. Seth Siegel, head of the licensing division of The Beanstalk Group, one of the world's top trademark-licensing agencies, reckons that a hot property such as Harry Potter could have generated 200-300 product licences in America alone. He believes that Warner is doing a good job in controlling the exploitation of the brand, and that other studios will do the same with films that have a long-term “franchise”.

This would please many licensees. Plenty were burnt with too much unsold stock from “over-merchandised” movies such as “Godzilla” and the more recent “Star Wars” episodes. A particularly conservative line is being taken with the second “Matrix” film. Only a handful of product licences have been issued, so as not to put off fans drawn to its counter-culture feel, and to keep their attention until yet another Matrix movie appears.

Potential products are facing much greater scrutiny. Allan Linden, director of marketing for Applause, a Californian toy firm, believes that a “less is more” policy will eventually produce a better return on investment. Properties such as Harry Potter, he reckons, are classics because they appeal both to adults and children—as does the “Simpsons”, which he licenses from Fox. Such products can go on and on: Applause's Raggedy Ann dolls were patented in 1915.

The biggest risk, indeed, is not of too much hype, but that the latest Potter book will lack the magical appeal of its predecessors. If Ms Rowling loses her power to enthrall, not even Hollywood's marketing wand will be able to save the day.

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Award

Jun 19th 2003
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We have won a media award from the Global Anticounterfeiting Group. The judges cited our article on counterfeiting in the May 20th 2003 issue and our attack ("Pro logo") on Naomi Klein's book, "No Logo".

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India and China

Two systems, one grand rivalry

Jun 19th 2003 | DELHI
From The Economist print edition

As India's prime minister goes to China, Indians should learn that they have less to fear from their giant neighbour than they think

SOME comparisons are stark enough to generate a national inferiority complex. In 1980, India had about 687m people, 300m fewer than China. Living standards, as measured by purchasing power per head, were roughly the same. Then, as China embraced modernity with a sometimes ugly but burning passion, it left India behind. In the next 21 years, India outperformed its neighbour in almost nothing but population growth.

By 2001, India had 1,033m people against China's 1,272m. But China's national income per head, according to the World Bank, was $890, nearly double India's $450. Adjusted for purchasing power, the Chinese were still 70% wealthier than Indians were. In the ten years from 1992, India's GDP per head grew at 4.3% a year, China's twice as fast. Some 5% of Chinese now live below the national poverty line, compared with 29% of Indians.

Economic strength begets strategic clout. An accident of history made China one of the five permanent, veto-wielding members of the United Nations Security Council, but that seat now seems to belong to it as of right. India, feeling it should have one too, is just one of a number of big countries with a claim, and laments its comparative geopolitical weakness. As Raja Mohan writes in a new book on Indian foreign policy*, “In all the new comparisons between the two Asian neighbours who entered the modern world at around the same time, India appeared to fall behind in every single indicator of national power and social prosperity.”

Many Indian businessmen, politicians and even diplomats now often ask westerners, in an aggrieved tone, why the West is so obsessed with China's economic success. But the obsession is India's, too. Comparison with China has become a distorting mirror in which Indians see their country's shortcomings grotesquely magnified. Many are looking at—often misunderstood—versions of the “Chinese model”, to see what India can learn.

For Indians, the “Chinese threat” comes in at least three forms:

the geopolitical panic that rivalry with China may one day lead to another war between them; the economic nightmare of an India of underemployed farm labourers spending their meagre earnings on imported Chinese goods; and the ideological doubt that maybe India's heroic experiment with democracy has exacted an even higher price than has China's erratic dictatorship.

Bye-bye, Bhai Bhai

This was not the way Jawaharlal Nehru planned it. India's relations with China are still scarred by the bitterness that ended its first prime minister's dream of *Hindi-Chini Bhai Bhai*, Indo-Chinese brotherhood, sealed in a treaty in 1954. Sibling tension soon surfaced, and sharpened when India gave sanctuary in 1959 to the Dalai Lama and 100,000 of his followers as they fled China's suppression of an uprising in Tibet. It ended, in humiliating betrayal for Mr Nehru and India, in the war of 1962.

In the late 1950s the Chinese army was found to have built a road across what India regarded as part of Ladakh, in its state of Jammu and Kashmir. It met Indian protests with a territorial claim of its own, far to the east, to what is now the state of Arunachal Pradesh. A brief war fought on three fronts resulted in a comprehensive Chinese victory. China invaded in the east, mostly for effect, before withdrawing a month later to the “line of actual control”.

It took a quarter of a century for relations to return to something like normal. In 1988 the two prime ministers, Rajiv Gandhi and Li Peng, agreed to set the border dispute to one side. Since then there have been 14 meetings of a joint working group set up to tackle it. Although its energies have been directed mainly to deciding the extent of the dispute—ie, where the line of actual control should run—rather than solving it, the process has allowed what look like cordial relations to develop. Last year Zhu Rongji, then Chinese prime minister, came to India, and his Indian counterpart, Atal Behari Vajpayee, will repay the visit this weekend. On many international issues—such as the war in Iraq—the two countries agree. Bilateral trade has grown from a paltry $338m in 1992 to nearly $5 billion in 2002.

At times, the mask of mutual respect slips. When India exploded a nuclear bomb in 1998, its defence minister, George Fernandes, let it be known that the arsenal was needed not so much because of Pakistan's nuclear ambitions as because of the long-term threat from China. It was certainly true that India's nuclear programme, started in the mid-1960s, was a response to its defeat in the 1962 war and to China's acquisition of the bomb two years later. Even this year, the present foreign minister, Yashwant Sinha, felt he needed to debunk theories of “the inevitability of conflict” between the two countries.

China's rapprochement with India has been complicated by its relations with Pakistan. Mr Vajpayee has now embarked on his “third and final” attempt to build a lasting peace with Pakistan, despite the two countries' dispute over Kashmir. He is hoping that China will be a moderating influence on Pakistan's generals. But with India still providing hospitality to the Dalai Lama, and China refusing to recognise India's incorporation of Sikkim in 1975 as a state of the Indian union, there is plenty besides the border wrangle to keep the two countries wary of each other.

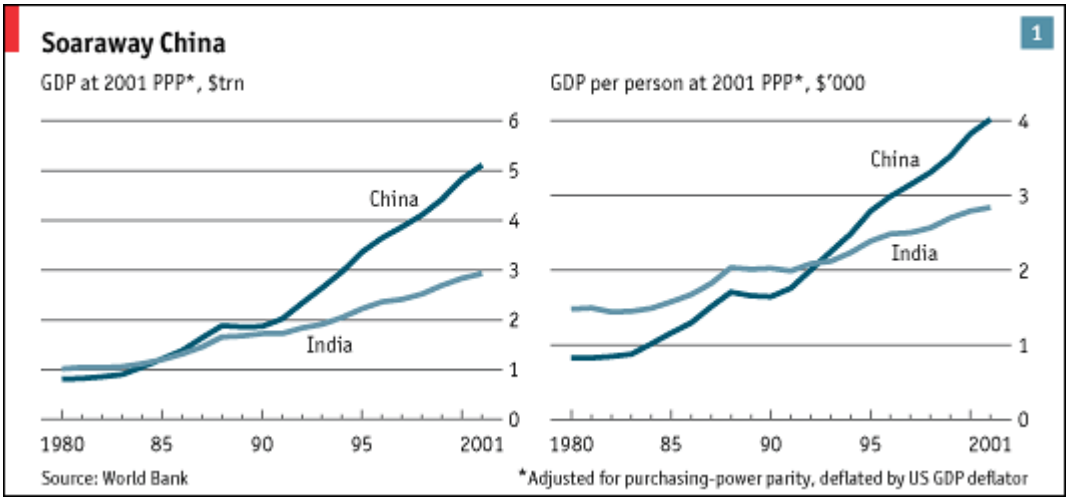
Mr Mohan argues that, despite these remaining hang-ups, India is now ready for “comprehensive engagement” with China. For some Indian pundits, however, the clouds are still thick. In March, in India's *Outlook* magazine, Rajinder Puri analysed the peace process aimed at ending the Maoist rebellion in Nepal. His conclusion: “The Chinese plan to encircle India with its proxies is near completion.” The Maoists, he said, had a “neat plan to make South Asia China's vassal.” This is an extreme expression of what Uday Bhaskar, of the Institute of Defence Studies and Analyses in Delhi, says is undeniable: that “Chinese influence on the Indian periphery”—Pakistan, Bangladesh, Myanmar, Nepal and even Sri Lanka—has increased.

A widely held belief colours Indian analysis of China's economic policies as well as its diplomacy: that Beijing has a grand and cunning plan, which survives all its political turmoil. India, in contrast, is an amiable, bumbling and inconsistent improviser. Mr Puri wound up his column with a little rhyme: “China moves events; India moves files. China never relents; India only smiles.”

Tell me it isn't true

Many Indian businessmen and policymakers react to evidence of China's superior economic performance first with denial, and then with anger. Denial takes the form of an assault on the factual basis of the comparison: China, it is well known, stir-fries its books, and India, suffering in comparison, is the victim of geopolitical statistical fraud. The two Chinese numbers most subject to suspicion are, first, its spectacular GDP growth rates and, second, the gargantuan amounts of foreign direct investment (FDI) that China claims to attract.

It is true that both sets of figures are highly dubious. For many years, for example, China's growth figures simply have not added up: aggregated provincial data produce a higher annual growth rate than the national one (which, hardly inviting confidence, is usually published before the end of the year in question). Even some national data—on energy consumption, say, or freight volumes—are inconsistent with such rapid growth.



China's and India's relative success in attracting FDI represents the sharpest contrast of all between the two countries. According to the official data, China received $52.7 billion last year; India got just 4% of that amount, $2.3 billion. Again, some Indian economists have cried foul. India's figures are understated, they say, because they exclude foreigners' reinvested profits, the proceeds of foreign stockmarket listings, intra-company loans, trade credits, financial leases and so on. China's, on the other hand, are inflated by “round-tripping” of domestic investment through Hong Kong.

On both counts, there is little doubt that the statistics flatter China. Many economists argue that its growth figures overstate the truth by one or two percentage points. As for FDI, Sadhana Srivastava, in an article in India's *Economic and Political Weekly*, has recalculated both India's and China's figures for the year 2000 to make a fairer comparison. He found that China's FDI fell by half, while India's more than tripled. This meant that, as a percentage of GDP, there was not much difference: 1.7% for India against 2% for China.

However, even on this basis, India was still attracting just 40% of the amount of foreign investment that went to China. Much of the gap is attributable to the activities of overseas Chinese—in Taiwan, Hong Kong, South-East Asia and America. They have ploughed far more of their money back into the motherland than have non-resident Indians, despite Indians' economic success in many countries.

Making things better

Nor, statistical quibbling aside, can there be much argument about the relative pace of growth fuelled by such investment. Some parts of India—Bangalore and Hyderabad, for example, or the industrial outskirts of Delhi—display the same feverish building that is under way in China. But in comparison with the massive construction site that is China's eastern seaboard, they seem like isolated pockets. China's growth may be patchy, localised and exaggerated. But all the evidence of the senses suggests that it is far faster than India's.

That is especially true of industrial growth, and above all of manufacturing, which in 2002 made up just 15% of India's GDP, compared with 35% of China's. Indian manufacturers scratch their heads in

bafflement at China's ability to undercut them. Rahul Gupta, managing director of Phoenix Lamps, a lighting-products firm employing 1,300 people near Delhi, says that whenever he comes up against Chinese competition, he finds that the Chinese price is no more than the cost of Phoenix's raw materials.

He blames this, in part, on hidden support in the form of subsidised raw materials; “huge amounts of unpaid receivables”; the absence of any concept of earning a return on capital invested; and export subsidies, which, in his business, he calculates to be worth 17% of the price. Phoenix, he says, simply cannot compete, and has retreated altogether from some products and some markets in Europe and South America. But customers, he thinks, will soon realise how shoddy Chinese products are.

In a similar vein, another Indian firm, Paper Products, a Pune-based maker of packaging for big Indian companies and multinationals, sees, in the words of its boss, Suresh Gupta, “zero threat” from China. The Chinese, he says, are good at selling standardised commodities—which his company buys, causing grief for Indian suppliers—but are poor at “bespoke” products, such as unique packaging.

Both firms' experiences are commonplace. A report commissioned by the Confederation of Indian Industry, a national lobby organisation, sought to explode what it said were five widespread Indian myths about China: that its growth stems entirely from investment, not improvements in productivity; that manufacturing is driven primarily by exports; that low Chinese prices are the result of flawed accounting; that exports are priced more or less at cost; and that Chinese products are shoddy†. Indian industry, it seems, suffers from a curious mixture of panic and complacency about China.

The report found that neither is justified. It explains lower Chinese prices largely in terms of a tedious accumulation of minor cost disadvantages borne by Indian industry (see chart). The biggest, accounting for as much as half the difference, are sales and excise taxes, followed by the cost of capital. India's much higher import duties—a trade-weighted average of around 24% compared with China's 13%—also push up the cost of inputs. The price of copper, for example, is 25% higher in India than in China.

If the report is right that the roots of Chinese manufacturing superiority lie in the fiscal and legal framework, that might worsen Indian industry's sense of inadequacy. But it also means that policy changes could do much to help India catch up: cutting import duties; simplifying and cutting indirect taxes by introducing a nationwide value-added tax (VAT); reducing the list of industries “reserved” for small companies; reforming the power industry by breaking down the state electricity boards into separate generation, transmission and distribution companies; easing labour laws to make hiring and firing and the use of contract workers easier. Indeed some of these reforms are already, slowly, under way, or at least under consideration.

But almost all of them are politically difficult. Bringing in a national VAT, for example, has been postponed three times, most recently this month, after state governments failed to lay the groundwork. In a number of places, the proposed tax was resisted by merchants, who shut shops in protest. With state and general elections looming, the government was loth to antagonise them. Not only do their votes matter; they can also be a vital source of party funds and, with their strike threats, of irritation to other voters. Typical, say reformists, of the political obstacles India faces.

China as a model?

“We must import either Chinese products”, according to one gloomy Indian manufacturer, “or the Chinese model.” Many Indians believe that a large part of the blame for their country's inferior economic performance must be borne by the political system. China, the argument goes, is a dictatorship where the government and the businesses it favours can do what they want—change laws, build infrastructure, secure licences, fiddle their books—all without brooking any opposition. In India, however, not only does every step require dealing with an inept, corrupt and intrusive bureaucracy, but the democratic system itself also imposes extra costs and delays. For every important and helpful reform, such as VAT, there is a powerful lobby that will oppose it.

Some make this argument in a spirit of pride: slower economic growth is a price worth paying for

democratic freedom. For others it is an analysis of despair: what poor, backward India needs is less democracy and more discipline.

Such a political comparison, however, contains many misperceptions. First, as those who have done business in China know, decision-making there is far less monolithic, far more ponderous, far more erratic and far more prone to profiteering by rent-seeking officials than it appears to some envious Indians.

Second, much that holds India's economy and businesses back has little to do with democracy as such: corruption, fiscal mismanagement, a lack of international ambition and a history of over-protection at home. Where India overcomes these obstacles, and has a clear competitive advantage—as in software and other information-technology services—it can be a huge success. Indian firms such as Tata Consultancy Services and Wipro leave their Chinese rivals far behind, and are preparing to compete with the best multinationals.

The way India's democracy has evolved has undoubtedly complicated policymaking. Coalition governments give disproportionate power to regional and caste-based minority parties. Worse, the electoral timetable, with many important states holding polls between the national votes, tends to put governments into cautious, electioneering mode for much of their time in office.

Yet these handicaps should not be exaggerated. The political system does offer the hope that a party might aim over the heads of sectoral-interest groups to the aspirations of all Indians for a better life. Already, Indians have the enormous benefit of being able to turf out a government that performs appallingly. India may not have had a Communist Party-led boom, but nor has it endured a Cultural Revolution or a Great Leap Forward. Indians may also have the chance, one day, of being able to elect a government that does the right things. Some of them would involve, in Mr Mohan's phrase, moving from “envy to emulation” of China. In terms of the political system itself, however, the envy and emulation should go the other way.

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* “Crossing the Rubicon: The Shaping of India's New Foreign Policy”. Viking/Penguin Books India, 2003

† “Learning from China to unlock India's manufacturing potential”. Confederation of Indian Industry and McKinsey, October 2002

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Investment banking

A spring in their step

Jun 19th 2003 | LONDON AND NEW YORK
From The Economist print edition

Alamy

A mood of optimism sweeps Wall Street and the City. But is the worst really over?

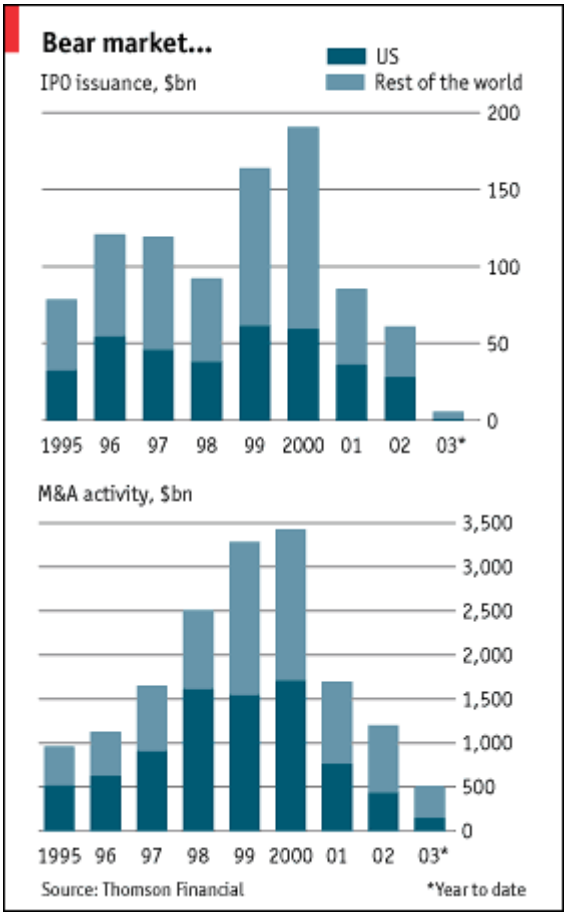
THREE years after the bull market ended and the brutal cull of jobs on Wall Street and in the City of London began, there is suddenly a lighter mood among those who still have a job. A clutch of big investment banks have reported decent second-quarter results, and those yet to come are also likely to be good, considering the recent gloom.

Most of the banks' new profits have come from a roaring bond market, fuelled by falling interest rates. But now other businesses are stirring too. Stockmarkets are up around the world: this week America's S&P 500 index went above 1,000 for the first time in nearly a year. The mergers-and-acquisitions (M&A) market is showing signs of life. Companies are tip-toeing into the equity markets. “In the last month or so, there has been a different mood,” says one senior investment banker.

Morgan Stanley, America's second-biggest investment bank, and Bear Stearns, its sixth-largest, both reported second-quarter results on June 18th. Although Morgan Stanley's results were a touch disappointing (its profit was $599m, compared with $797m in the same quarter last year), Bear Stearns, a fixed-income specialist, made a record $280m. Lehman Brothers was due to report good results the following day.

In effect, the shares of investment banks and banks with big investment-banking businesses are geared bets on the stockmarket. Thus they hit bottom at virtually the same time as the market in early March, and have since risen even faster than the market as a whole.

Climbing markets are starting to benefit lots of the investment banks' businesses. Trading turnover is rising, which means higher commissions. The value of the funds in banks' asset-management arms is going up, which means more fees. In M&A, companies have found a bit more courage to buy and sell businesses, once again meaning more fees. In Europe, for instance, Telecom Italia is selling its directories business for some $3.5 billion. In America, one software company, Oracle, has made a hostile $6.3 billion bid for another, PeopleSoft.



Some new business in areas besides bonds will be welcome. For one thing, given how low government-bond yields and corporate credit spreads have fallen, the time of plenty in the bond market may have passed. For another, despite brisk activity in derivatives, foreign exchange and convertible bonds, banks' mainstay businesses have suffered badly. Initial public offerings have slowed to a trickle. According to Thomson Financial, there have been only three in America in the second quarter so far, compared with a peak of 127 in the third quarter of 2000. By both value and volume, worldwide M&A deals are at their lowest since 1995 (see chart).

Small wonder that investment banks have cut bonuses and jobs with equal savagery. Anybody other than the big money-spinners—and lately these have mainly been found at bond-trading desks—has been fretting about where the axe will fall next. Employment in the securities industry has fallen from a high of 200,000 in New York and 330,000 in the City, to 162,000 and perhaps 280,000 respectively (for London, there are no official figures yet). Prices of swankier properties in New York and London have suffered accordingly. Employment in America's securities industry has dropped from 786,000 to a smidgen over 700,000. In percentage terms, that is the largest fall since the early 1970s; in absolute terms, the largest ever.

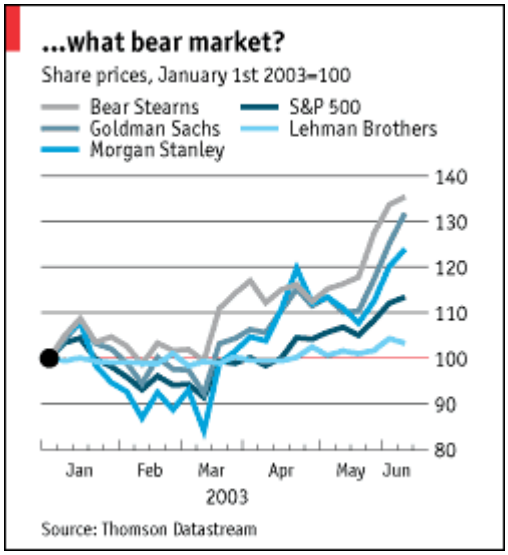
Some banks have cut harder than others, either because their costs were too high, or because they thought the outlook was so bleak, or both. Credit Suisse First Boston, a big Swiss-owned investment bank, was particularly flabby, and John Mack (“Mack the Knife”), has been especially merciless in slashing away the fat. Merrill Lynch, Goldman Sachs, Morgan Stanley and J.P. Morgan Chase have also not flinched from shedding staff. J.P. Morgan Chase has got rid of two-thirds of its investment bankers in M&A and issuance because of overlaps from the merger that created the firm and the decline in business since. Others, such as Deutsche Bank and—until this week—UBS, have been more leisurely. However, on June 18th UBS made up for lost time and chopped another 500 investment bankers.

Now that business seems to have stabilised, banks must pull off a harder trick than the simple one of slashing jobs: how to position themselves to take advantage of an upturn, while keeping costs tight in case the market turns down again. Few seem ready to trust the recent upturn; most have enough staff to cope with a slight pick-up in business. So although general hiring freezes may be coming to an end, most banks will content themselves with filling gaps only as the need arises. Klaus Diederichs, J.P. Morgan Chase's European investment-banking boss, says that the bank does not want to dent profitability by hiring too early. With his current staff, he estimates, he could handle 15% more work.

There are, moreover, some big unanswered questions about the

business model that investment banks should adopt. Regulatory ire and investor wrath from shady practices in the go-go years have drawn attention to the conflicts of interest that bedevil investment banks. The role of analysts, who advised investors but in essence acted as pimps for investment bankers, has been a particular problem. In the early 1990s analysts were two a penny, but by the start of this decade they were some of the banks' most expensive employees. But banks have now been told that they must not use them to tout for investment-banking business. Analysts' numbers and compensation have dropped sharply, but it is still unclear who will now pay for their research. Investors, themselves stretched by bear markets, seem unwilling to do so.

Overarching all this is the trillion-dollar question: is the bear market over? After all the job losses of the past couple of years, securities firms employ 170,000 more people in America than they did in the mid-1990s, when activity was last at today's levels. A lot of people must be hoping that the bear market has gone for good. Fingers crossed.



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Russia's economy

Spend, spend, spend

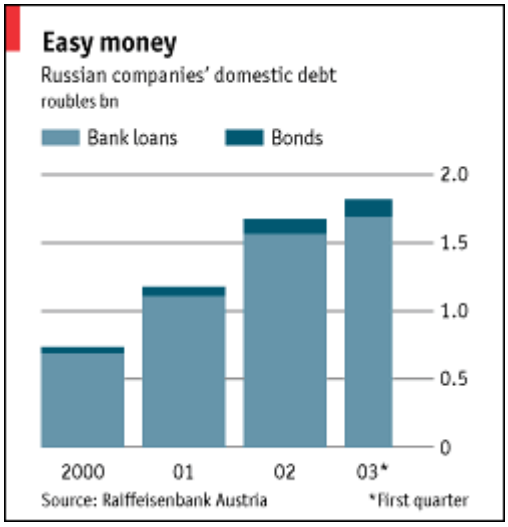
Jun 19th 2003 | MOSCOW
From The Economist print edition

Russia is booming again, inviting comparisons with the heady days before its 1998 crash. Bust coming?

Get article background

WHY do Russians who earn one-fifth as much as *The Economist*'s Moscow correspondent buy clothes and mobile phones that are twice as expensive as his? The answer is that Russians prefer spending to saving. The fancy shirts and flashy ring-tones on the streets of Russia's bigger cities are a sign of the economy's boom; but they also attest to its basic weakness.

To some, it all seems eerily familiar. The stockmarket index, the RTS, has risen by 30% this year in dollar terms; domestic demand is expanding by nearly 9% a year; the rouble is strengthening; and interest rates are falling. Last year, say recently revised figures, investment grew by a healthy 9%. Corporate borrowing is soaring (see chart). Cuts in tax rates and bureaucracy have increased tax revenues and made it a bit easier to start a business.



Economists have been upgrading their forecasts of this year's GDP growth to 6% or more—rough guesses, admittedly, given the amount of activity hidden from the tax authorities and the limitations of a statistical bureau that recently recalculated the 2000 growth figure for the third time. Last month Fitch, a rating agency, pushed Russia up to only a notch below investment grade. This week the hope that Moody's and S&P might do likewise sent the stockmarket sharply upwards again.

In short, Russia is roaring, just as it did in 1998, before its government defaulted on its domestic debt, triggering a systemic collapse. Happily, this is not a rerun. Five years ago Russia had a big budget deficit, a fixed exchange rate and a lot of high-coupon debt. Today oil revenues have filled state coffers. The relative stability brought by over three years under President Vladimir Putin has attracted foreign investment and reduced capital flight. “There is a totally different philosophy towards corporate governance in Russia today, as compared with pre-1998,” says Peter Weinberg, European chief executive of Goldman Sachs. “Some of the best companies' corporate-governance standards here even exceed some of those in the United States.”

Most of the incoming investment, it is true, has been of the twitchier portfolio variety rather than the more stable direct kind, and how much stays in Russia surely depends on oil prices. But the signs are encouraging. Metro, Germany's biggest retailer, has said it will invest *euro*1 billion ($1.2 billion) in the country; Danone, a French food company, is thinking of increasing its shareholding in Russia's Wimm-Bill-Dann; and Deutsche Bank, which set its face against Russia after the 1998 crash, is said to be eyeing a stake in UFG, an investment bank.

For all that, optimism may be running ahead of the economy's performance. The money supply has been rising by more than 40% a year since 1999. In theory, the financial system should channel this money into its most profitable uses, allowing for risk. But the available cash is being poorly directed. Most of Russia's 1,300 banks are the “pocket banks” of large companies, in effect corporate treasuries. The system is inefficient, poorly supervised and still inexperienced at lending. As a consequence, it is still widely mistrusted. Richard Hainsworth of Renaissance Capital, a Moscow investment house, estimates

that Russians still keep anywhere from half to nearly twice as much money under their mattresses as they do in the bank.

The banks' lending patterns are looking increasingly hopeful—or, put another way, increasingly risky. Exporters who borrowed $50m for 18 months in 2000 and 2001 are now taking on debts ten times as big for two or three times as long, says Mark Kirsh of Linklaters, a law firm. With the biggest firms already swamped with credit, foreign banks are starting to look at second-tier, usually less solid companies. Consumer lending, though still tiny, is shooting up. This is a risky business in a country where nobody has a credit history and legal ways of recovering bad loans (ie, without baseball bats) are weak.

Optimism and easy money are pushing up asset prices. Shares are a case in point, driven by foreign investors, oligarchs on strategic buying sprees and the fortunes of a few big firms, not ordinary Russians taking a sudden interest in the stockmarket. Another is property: rents and house prices in Moscow are approaching London-like levels. Analysts and investors who were caught out in 1998, worried by careless lending and over-zealous buying of shares and property, are warily predicting another bust, albeit smaller and without a government default.

This could be just excessive caution. But there would be less cause for concern if Russia's economic structure were better developed. Although credit is easy for big companies, it can still be tight for smaller firms outside the large cities. Straightforward reforms, such as tax cuts, are almost completed, but the harder tasks, such as seriously trimming the bureaucracy that stifles entrepreneurship, are stuck. Russia is diversifying too slowly away from oil and other natural resources with volatile prices.

For now oil is comfortably expensive; and with money in the treasury, and an oil stabilisation fund due to be created next year, Russia could cope with an oil-price fall for a while, especially if it were gradual. Still, a drop in oil prices would hurt the budget, says Evgeny Gavrilenkov of Troika Dialog, an investment bank, because to break even the government is banking on $19-20 a barrel in this year's budget, as against $15-16 last year. A sudden fall would remove the reason for many foreign investors' interest in the country, push up borrowing costs for the government and everybody else, and bring the boom to a sudden stop.

Is a bust inevitable? Not necessarily, says Christof Rühl, the World Bank's chief economist in Moscow. Banking reforms now before parliament would allow regulators to focus on deposit-taking banks and not waste their resources on the pocket banks. This should rein in the more careless lenders, reducing the risk of a credit bubble. The reforms would also create a deposit-insurance scheme: at the moment only deposits at Sberbank, the country's biggest bank, enjoy an implicit guarantee, because it is owned by the state. Such a scheme might increase trust in banks and take some pressure off asset markets.

However, the reforms have been held up for a while. First the spoiler was Sberbank, because as the biggest it would pay most towards deposit insurance, in effect covering other banks. But now, says Mr Hainsworth, a couple of commercial banks are blocking it, maybe because they fear new regulation, maybe because they want to spend money building up their brands before they pay for insurance. If they get their way Russia's economy, like its fashion-victim shoppers, will go on looking richer than it really is.

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Jean-Claude Trichet

Relaxed

Jun 19th 2003 | PARIS
From The Economist print edition

The way looks clear for France's choice to succeed Wim Duisenberg

IT WAS a long time coming. But on June 18th (Waterloo day), Jean-Claude Trichet, governor of the Bank of France and president-in-waiting of the European Central Bank (ECB), won his verdict. He was cleared of criminal complicity in the posting of false accounts for 1991 and 1992 by Crédit Lyonnais, then a state-owned bank. Had he feared the opposite decision? At an (off-the-record) breakfast a week earlier, he had been uncommonly relaxed, even voluble. Curiously, the French word for acquitted is *relaxé*. *Relaxé* he duly was.

The trial had been a cloud over Mr Trichet's imperious progress towards running the ECB. He missed becoming boss of the central bank when it was set up in 1998, only to be offered the chance of taking over halfway through the eight-year term of the Dutch candidate, Wim Duisenberg. Europe's political leaders will breathe a sigh of relief that they can now avoid a fresh wrangle when Mr Duisenberg steps down in a few weeks' time. Mr Trichet is also seen by many as a good choice to tackle Europe's economic difficulties, perhaps by using his charm to persuade colleagues to push interest rates lower, faster.

France's public prosecutor could have appealed against the verdict. On June 19th, however, he said he would not do so. The prosecutor already faced acute political pressure to acquit Mr Trichet, whose future services to France are likely to be invaluable. There was equal pressure to clear Jacques de Larosière, Mr Trichet's predecessor and a distinguished international banker. He and another top official were also acquitted.

The prosecutor did at least secure a notable result in the form of guilty verdicts against three former senior managers of Crédit Lyonnais, although the defendants will probably appeal. Jean-Yves Haberer, the bank's former boss, who was ousted in 1993, was given a suspended sentence of 18 months. François Gille and Bernard Thiolon, two of his most senior deputies at the time of the dodgy accounting, were given suspended sentences of ten and eight months respectively.

Given that, until now, there had been no convictions, bar a few minor ones, relating to a bank fraud that has cost French taxpayers at least *euro*25 billion ($29 billion) and still rumbles on, these sentences are a landmark. It had seemed that, during years of argument and buck-passing, nobody responsible at senior level would ever be punished.

The judge's 59-page ruling makes explicit the extent of the efforts by Messrs Haberer, Gille and Thiolon to massage Crédit Lyonnais's accounts for 1991 and 1992. There were anxious exchanges with France's bank regulators and the Treasury, particularly in the first half of 1993 when they were trying to close the 1992 accounts. By then it was becoming harder to disguise the fact that certain loan accounts were incurring huge losses.

The bank wanted to minimise declared losses on these loans, and submitted barely credible figures for inspection. But even these were doctored after bank regulators and central bankers had spotted that Crédit Lyonnais's falling capital ratio could pose a systemic risk. Was the bank ordered to revalue its loan book so that its core capital ratio rose from 7.7% to 8.2%, a level deemed acceptable? Messrs Trichet and de Larosière strongly denied this. The judge said the accusation could not be substantiated, but that any complicity would anyway have had to predate these arguments. With that chapter closed, Mr Trichet can open a new one at the ECB. The guilty parties will doubtless fight on.

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American state finances

The Illinois gamble

Jun 19th 2003 | NEW YORK
From The Economist print edition

The state is short of cash, but long on optimism

“GOVERNOR'S budget solves worst fiscal crisis in Illinois history without sales- or income-tax increases or gambling expansion,” gushed a press release at the start of this month. Impressive stuff, given that Illinois has a $5 billion budget deficit and a $35 billion pension shortfall, the biggest of any American state. If only it were true. The state's problems, far from being “solved”, have merely been postponed. And Illinois is “gambling” in a fashion that would shame the slickest hedge fund.

Illinois has sold $10 billion-worth of pension obligation bonds (POBs), a type of taxable municipal bond. There are fewer restrictions on how the state can invest the money raised from POBs than there are on the use of tax-exempt offerings. So of the money raised, $2 billion will pay for the state's annual contribution to its employees' pension fund. The rest will be handed to the fund for investment in financial markets, in the hope of earning a higher return than the bond's 5% yield. In this way, thinks the state, it can plug its pension hole and maybe even reduce future pension contributions.

The issue is backed by the full faith, credit and taxing powers of the state, and so is highly rated. Investors snapped it up eagerly. But critics question what it accomplishes. “It's cosmetic. It doesn't solve the problem, it just shifts it around,” says Stephen Nesbitt, managing director of Wilshire Associates, an investment advisory company.

Making the hoped-for higher return is far from a certainty. Others have tried this before. New Jersey pushed through a $2.8 billion POB issue in 1997 despite lawsuits challenging the constitutionality of the move. Philadelphia raised $1.3 billion from a POB offering in 1998. Both are struggling to make more in the market than they pay on the debt. A spokesman for New Jersey, whose bond is structured so that interest payments rise over time, says that “we're really hamstrung by this.”

The Illinois bond has a fixed interest rate, and officials point out that the state's pension funds have made an average annual return of 9.2% in the past two decades. But this, says Mr Nesbitt, is because bonds then yielded 8% or more. The low interest rates that make it cheap to raise money also imply low returns from investing the proceeds.

Low interest rates have made it tempting to borrow to shore up the pension scheme. However, it is a gamble in which tomorrow's taxpayers bear the risk. If markets climb, as they have in the past few months, the pension fund will make a profit and the debt will be repaid. If not, the fund will still be short of money and taxpayers will somehow have to service the debt.

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Japanese bond investors

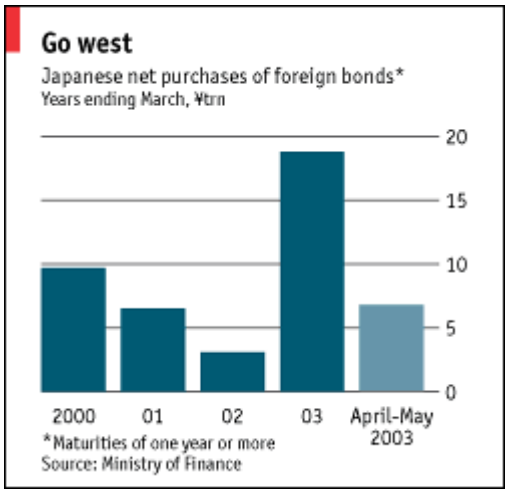
Market shifts

Jun 19th 2003 | TOKYO
From The Economist print edition

Prices of Japanese bonds fall at last

THE wonder is that it didn't happen sooner. Tired—or scared—of the high prices and wafer-thin yields on Japanese government bonds (JGBs), investors have begun selling. On June 19th the yield on ten-year JGBs jumped to 0.73% before closing at 0.69%. The day before, the yield had been 0.53%; a week before, a record closing low of 0.44%.

Indeed, in recent months some Japanese investors had already been shifting money out of JGBs. According to the Ministry of Finance, in the first five months of this year they bought over ¥10 trillion-worth ($84.5 billion) of foreign bonds, more than in all of 2002 and almost as much as in 2001 (see chart). Buying is heading for a post-bubble record, having gathered pace in the past couple of months. Investors bought ¥3 trillion of foreign bonds in April, and ¥3.7 trillion in May, the most—bar one freak month—on record. They purchased a further ¥2 trillion in the first two weeks of June.



The strategy has provided some much-needed income for Japanese life insurers, which account for almost one-third of the recent purchases. Unable to match high guaranteed payout rates by investing in JGBs, life insurers have been bleeding money for years. However, ten-year American Treasury bonds yield more than 3%. Even after hedging costs, insurers have still been able to hope for a return of 2%, far more than in Japan.

Besides investing in Treasury bonds, insurers have been buying the paper of American quasi-governmental agencies. This earns a little more, without the hassle of company research that investment in corporate bonds would require. The difference in yield is not the only reason why insurers have been looking abroad. One insurer says that they also fear further falls in the prices of JGBs.

Banks have also been big buyers. As well as being lured by America's higher yields, they are betting that Japan's financial authorities will stop the yen from appreciating much against the dollar. Japan's wretched investment environment is also pushing regional banks to break with tradition and move money into foreign bonds. And retail investors, especially wealthy ones, have been piling into international fixed-income mutual funds that offer monthly interest payments. Direct purchases by individuals have also been increasing sharply.

Compared with the size of institutions' portfolios, the shift abroad has so far been small. Falling prices for JGBs will therefore dent the bond portfolios, and hence the balance sheets, of the country's struggling banks and life insurers. That will be one reason why the Bank of Japan, which already buys ¥1.2 trillion-worth of bonds each month as a way of pumping money into the economy, will not want to let the market slip too far.

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German public banks

Tough Hessian

Jun 19th 2003
From The Economist print edition

A merger proposal is strangled at birth

Helaba, a Frankfurt fixture

ONCE again, an attempt to consolidate Germany's unwieldy public-sector banks has fallen victim to regional politics. On June 16th Roland Koch, prime minister of the state of Hesse, quashed early ideas of including the local Landesbank (state bank), Helaba, in three-sided merger talks with Landesbank Rheinland-Pfalz (LRP), the equivalent institution in neighbouring Rhineland-Palatinate. The third party would have been Deka Bank, a wholesale bank and the country's second-biggest fund-management firm, which is owned by Germany's local savings banks.

The plan had seemed an elegant way to merge two of the publicly owned Landesbanks, which act both as clearers for the savings banks and as house and development banks for state governments. It would have strengthened their creditworthiness in time for 2005, when the Landesbanks will lose their state guarantee on any further borrowing. It would also, through Deka, have given them a retail fund-management business.

Mr Koch said he wanted to find an internal, “Hessian” solution for Helaba. Work on tying the Frankfurt bank more closely to the local savings banks is under way, says a spokesman for the prime minister. In fact, Helaba serves two states: Mr Koch's Hesse, whose government owns 10%, and next-door Thuringia, in former East Germany, which has a 5% stake. The savings banks of the two states, which own the remaining 85% of the bank, had reportedly started talks with Deka behind Mr Koch's back. Despite his government's small stake, however, he retains a veto.

Now Deka and LRP, and the savings banks that own them, must think again. One possibility is a merger with Landesbank Baden-Württemberg (LBBW), itself the result of a three-way merger in 1999, which has a 12.5% stake in LRP. Another is a deal with Landesbank NRW, in North Rhine-Westphalia, Germany's most populous state, whose subsidiary, WestLB, owns 37.5% of LRP.

But Landesbank NRW is not flavour of the month, thanks to goings-on at WestLB. Having received a report on the bank on June 18th, BaFin, the German financial regulator, may censure WestLB for neglecting its core business and drifting into risky ventures such as private equity in London, on which it has had to write off losses of *euro*430m ($500m). Even the savings banks that ultimately own most of WestLB are said to be casting around for ties elsewhere. On July 2nd its owners will meet to discuss its future. This might mean sacking its executive chairman, Jürgen Sengera.

The savings banks and Landesbanks have roughly a 50% share of the German banking market. Their

guarantees have distorted the lending market and helped push Germany's banking industry into its present sorry state. The removal of their guarantees after 2005 is a temptation to borrow as much as they can before then. However, the credit-rating agencies are watching closely. Well before the guarantees go, the agencies want to see stronger ownership and balance sheets. One of them, Fitch, recently warned some unnamed German regional banks that their ratings might suffer if they did not disclose more details of their credit exposures.

There has already been some consolidation among Landesbanks: the state banks in Hamburg and Schleswig-Holstein joined forces earlier this month, and Bayerische Landesbank has swallowed the tiny Landesbank Saar. But the merger of savings banks with Landesbanks would create larger banks with a flow of both retail and wholesale business. There are a few examples: NordLB, based in Hanover, has some retail branches in Brunswick; LBBW is also a retail bank. A thoroughgoing merger wave, however, may have to wait until 2005.

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Economics focus

Seeking the right medicine

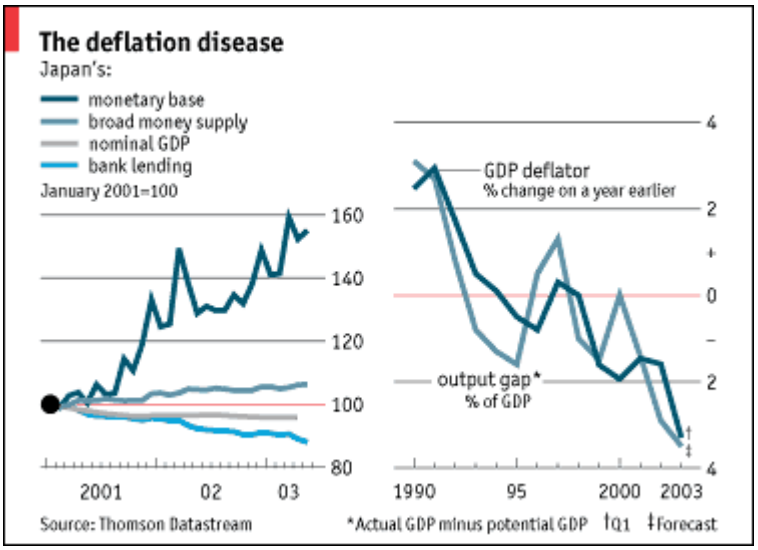
Jun 19th 2003
From The Economist print edition

Japanese policymakers say they are powerless to halt deflation. They are wrong

Get article background

PRICES have been falling in Japan since 1995. Nominal GDP has shrunk by 6% since 1997. In a recent speech, Toshihiko Fukui, the new governor of the Bank of Japan, claimed that macroeconomic textbooks offer no solution to deflation. Both the Bank of Japan and the government believe that Japan's deflation is largely structural. The appropriate cure, they say, is to clean up the banking system so banks can lend again, and to close unprofitable firms to reduce excess capacity. Japan does indeed need to restructure its economy. But the real cause of deflation is insufficient demand—and the cure is macroeconomic stimulus.

The Bank of Japan insists that monetary policy does not work once interest rates hit zero. The government argues that fiscal policy has also become impotent, and there is no room for further easing because public-sector debt is already dangerously large. There is some truth in each claim. But if monetary and fiscal policies were eased in tandem they should succeed in boosting demand and stopping deflation.



Start with monetary policy. Some economists argue that all the Bank of Japan needs to do to halt deflation is to set an inflation target and keep printing money. But the bank has created lots of money by buying government bonds. The monetary base has increased at an annual rate of almost 25% over the past two years. Yet this has not fed through to broad-money growth; bank lending and nominal GDP continue to fall (see chart). The Bank of Japan blames the money-transmission mechanism: it is jammed because banks, saddled with bad loans, cannot lend more. So the priority is to fix the banking system.

However, that may not be enough. Not only are banks reluctant to lend, but overindebted firms are loth to borrow in a deflationary environment. Even if the banking system were fixed, new borrowing and hence economic growth could remain weak. Worse still, although a write-off of non-performing loans is vital in the long term, speeding it up in the short term would cause more bankruptcies and unemployment, exacerbating deflationary pressures. So how can demand be revived? The Bank of Japan is wrong to say it has done everything it can. Even if conventional “quantitative monetary easing” fails, a central bank can still try to boost private wealth and spending by buying unconventional assets, such as

corporate bonds, equities and real estate. The snag is that there is huge uncertainty about the necessary size of such asset purchases and the consequent risk of future losses on the central bank's balance sheet.

As for Mr Fukui's claim that economic textbooks offer no solutions, it shows he is not an economist. Keynes pointed out 70 years ago that, when an economy is in a “liquidity trap” and monetary policy is “pushing on a string”, a fiscal stimulus can boost demand. But the Ministry of Finance retorts that a huge increase in government borrowing over the past decade has failed to revive the economy. Furthermore, it says that Japan's public debt is already too big and, given the burden of an ageing population, it needs to be reduced.

General theory time

However, Adam Posen, an economist at the Institute for International Economics in Washington, DC, has shown that fiscal policy has worked in Japan, when it has been used properly. The awkward truth is that the government has not engaged in much fiscal stimulus over the past decade. Most of the increase in government borrowing has been caused not by higher public spending, but by a slump in tax revenues on the back of a feeble economy. Even so, Japanese officials argue that there is no room for further fiscal easing. Japan's public debt stands at over 140% of GDP. If households expect future taxes to rise to service higher debt, they will save more, neutralising any stimulus.

A better way forward would be more active co-operation between monetary and fiscal policy. This has most eloquently been proposed by Ben Bernanke, a governor at America's Federal Reserve, in a recent speech in Tokyo. If the Bank of Japan were to finance tax cuts directly, this could succeed where monetary and fiscal policies pursued separately could fail. A tax cut financed by the Bank of Japan would mitigate the usual concerns about rising debt: debt purchased by the central bank rather than the private sector implies no net increase in debt service and hence no future tax increases. Consumers should then be more willing to spend rather than save any tax cut. It also gets around the Bank of Japan's concern about the blocked money-transmission mechanism: a joint monetary and fiscal boost will increase spending regardless of the health of banks.

Is it irresponsible to recommend a tax cut given the current state of Japanese public finances? Mr Bernanke suggests that the severity of the government's debt problem can be overstated, since some 59% of outstanding debt is actually held by public-sector institutions. If a money-financed fiscal expansion increases nominal GDP, while leaving government debt in private hands unchanged, this would reduce the true debt ratio. An increase in nominal GDP would also increase tax revenue, improving the government's long-term finances.

What about the Bank of Japan's worries about the health of its balance sheet if it succeeds in creating inflation, resulting in a big capital loss on its holdings of bonds? One way to fix this problem is for the Ministry of Finance to convert fixed-interest-rate government bonds held by the central bank into floating-rate bonds. That would protect the capital position of the Bank of Japan from a future rise in interest rates.

Ending deflation will not solve all of Japan's problems. But it would make it easier to carry out banking and structural reform, by reducing the job losses and financial distress caused by restructuring. Unfortunately, the chances of co-operation between the government and the central bank are low. And the Ministry of Finance is more interested in raising taxes than in cutting them. Expect deflation to persist.

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About sponsorship

Buttonwood

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From The Economist print edition

Our new online column on financial markets is now called Buttonwood, after the 1792 agreement that regulated the informal brokerage conducted under a buttonwood tree on Wall Street. Thanks, and champagne, to David Wineberg and John Meek, who both suggested the name. Buttonwood appears every Tuesday on Global Agenda, part of *The Economist*'s online edition.

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SARS

It ain't over 'til it's over

Jun 19th 2003 | PETALING JAYA
From The Economist print edition

AP

The scientific response to SARS has been impressive, but the disease was actually brought under control by good, old-fashioned public-health measures

Get article background

PROGRESS in understanding the science of SARS has been unprecedented, trumpeted Gro Harlem Brundtland, secretary-general of the World Health Organisation, at the agency's latest conference on Severe Acute Respiratory Syndrome. She has reason to be pleased. Within months of the first outbreak of the disease, and within weeks of the first internationally publicised cases, scientists not only discovered the virus that causes the disease, but also mapped its genome and identified a number of animal species from which humans might have caught it. As several conferees noted, that contrasts with the years it took to identify HIV as the cause of AIDS, let alone to chart its genetic make-up.

Dr Brundtland assured the 2,000 scientists, bureaucrats and journalists gathered amid the bronze elephants and cement sphinxes of a resort complex in Petaling Jaya, Malaysia, that SARS was in retreat. At the start of the conference, on June 17th, the WHO highlighted Taiwan's success in containing the disease by lifting its warning against travelling there. Numerous speakers displayed graphs showing the incidence of SARS tapering off sharply in all affected countries. Even in China, the focus of the epidemic, there have been no new cases for several days.

It is worth noting, however, that this quick suppression has nothing to do with the whizz-bang science that so excites Dr Brundtland. Instead, as she acknowledged, it boils down to centuries-old epidemiological principles, such as strict quarantine and good hygiene. New technology has helped, but mainly by speeding up communication between doctors and public-health workers in different countries. As David Heymann, another WHO official, puts it, the most important technologies in the fight against SARS have been the internet and videoconferencing.

Prevention and cure

Researchers were impressively quick to pinpoint a new type of coronavirus as the cause of SARS. But they have, as yet, little idea how to treat it. At the conference, various doctors wanly described how little various combinations of steroids and anti-viral agents seemed to help SARS patients. Another possible treatment involves injecting SARS victims with antibodies from those who have recovered from the

disease. Gamma-globulin injections against hepatitis A work this way, but the technique has not been tested on enough patients to be sure that it can combat SARS. Even if a possible treatment is identified, with the current outbreak on the wane there may be nobody on whom to test it. The same problem will also hamper the development of a vaccine.

Thomas Tsang, a researcher at Hong Kong's Department of Health, found that the SARS virus can survive for up to 96 hours on glass and up to 72 hours on laminated surfaces. That suggests that SARS could be caught from door handles or lift buttons days after an infected person had touched them. But more work is needed to establish whether this is a significant route of transmission. In another outbreak in Hong Kong, people became sick via contact with infected faeces. Most patients, though, have contracted the disease directly from another victim—by inhaling infected droplets from coughs or sneezes.

Although the main mode of transmission is thus thought to be understood, some participants in the conference worried that people may be carrying—and transmitting—SARS without displaying any symptoms, making the disease far harder to contain. Such asymptomatic carriers would be a particular problem, because there is no cast-iron biochemical test for SARS at the moment.

All SARS patients do seem to develop antibodies, which can be detected by blood tests—but only in the later stages of the disease. Nucleic-acid amplification, a technique for sifting through blood samples looking for SARSDNA, yields only patchy results. The virus itself can sometimes be detected in throat swabs and stools. But the first technique is never reliable, and the second works consistently only ten days or so after the onset of symptoms. Yet SARS victims must be quarantined within a day or two of showing symptoms if there is to be any hope of containing an outbreak.

Erring on the side of caution, therefore, doctors assume that patients have SARS if they have a high fever, dry cough, breathing difficulties and have been in an area with recent local transmission of the virus. That works quite well when the incidence of other respiratory diseases is low. But, come winter, many innocent pneumonia victims could be mistaken for SARS carriers, sparking public-health panics.

Somebody may yet find a more sensitive method to test for the virus. But most delegates to the conference seemed to pin their hopes on another old-fashioned method: refining the clinical definition to winnow out victims of other respiratory illnesses. Joseph Sung, of Hong Kong's Prince of Wales Hospital, found that many SARS patients also suffered such complaints as diarrhoea and chills. The WHO is hoping to compile a database of clinical observations from all SARS patients. Once that is done, it will be a relatively simple task to trawl through the information looking for previously undetected patterns.

The need is all the greater since none of the participants in the conference seemed confident that the world has seen the last of SARS. It might be seasonal. Or it might jump from animals to people again. The virus has already been detected in palm civets, ferret badgers and racoon dogs. Hume Field, of Australia's Animal Research Institute, fears that it might exist in many more species. Nobody has yet completed the genetic analysis needed to determine whether the current outbreak had single or multiple sources. This would offer hints as to whether it is likely to prove a one-off.

Even if SARS does disappear, Dr Brundtland and her colleagues are keen to stress that the world must remain on guard against the next new disease. A virulent new form of influenza, for example, could spread much more rapidly than SARS, which is not especially contagious by comparison with other respiratory diseases. In that case, the pace of scientific research will need to be even faster to keep up.

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Audio conferencing

Uncrossed wires

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A better way to teleconference

TILL confrères Carnaby fascinating. Er, teleconferences can be frustrating. It is either impossible to make out what one person is saying over the chatter of others, or the conversation degenerates into a formal and painfully slow series of dialogues. Now a team of researchers from PARC, a commercial research laboratory in Palo Alto, California, is trying to change this. The researchers presented their latest results at a recent conference of the Association for Computing Machinery in Fort Lauderdale, Florida. Their model for understanding, and dealing with, the failings of teleconferencing is that paradigm of social chit-chat, the cocktail party.

In a cocktail party, groups of conversing people (which the researchers call “floors”) spontaneously form and break up as people overhear adjacent conversations, or get bored with their current one. The key (if obvious) fact, says Paul Aoki, one of the researchers, is that people who share a floor sound noticeably louder to each other (because they are close together, and facing one another) than they do to those on adjacent floors. This makes it easier for a listener to sort out the signal—the person being listened to—from the general noise of the party.

In a conference call, by contrast, everybody is heard at about the same volume. This makes it almost impossible for more than one person to speak at a time, inhibiting casual conversation. Even in a formal, but fast-paced context, such as an air-traffic-control system, the monotonous volume makes comprehension difficult.

Dr Aoki's system is called Mad Hatter after one of the characters in “Alice in Wonderland” (though the hatter's party was tea, not cocktails). It mimics the context of normal conversation by changing the volume of sound from a given participant that the other participants hear, according to how closely he and they are interacting with each other.

Mad Hatter uses two criteria to work out who is talking to whom. The first is the degree of overlap between two individuals' speech—if they are talking at the same time, the reasoning goes, they are unlikely to be addressing one another. The other is the time that elapses between the moment that one person stops speaking and another starts. A short gap indicates that they are likely to be in a conversation—mutually questioning and answering one another—whereas a long one will usually mean that they are not.

By combining these two measures, and updating its assessment every 30 milliseconds, the system is able to switch participants between floors without any effort on their part. Users hear others on the same floor normally, but those on a different floor are only a fifth as loud.

Mad Hatter is not yet perfect. According to the study's guinea-pigs it sometimes makes mistakes, such as suddenly turning down the volume on a conversational partner before the conversation is finished. When it worked, though—which was most of the time—it was possible for several useful conversations to go on at once. This was something that was impossible in a control test carried out over a normal teleconferencing system.

Dr Aoki has several ideas for improving Mad Hatter. It could spot commonly used words as features of a particular conversation, or keep track of relevant changes in intonation. But the prototype is a good start. Not only business, but gossip too, may soon be easier in the global village.

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Nicotine and Alzheimer's disease

Lighting up time?

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A chemical derived from nicotine may protect against dementia

YOU would have to twist a doctor's arm a lot before he would admit that there could possibly be any health benefits from smoking. But for the past decade there has been nagging evidence that smokers suffer less than other people from Alzheimer's disease, and that this is not merely because they tend to die before the symptoms would otherwise appear. Now, a piece of research published in the *Proceedings of the National Academy of Sciences*, by Tobin Dickerson and Kim Janda, of the Scripps Research Institute in La Jolla, California, provides a possible explanation.

What causes Alzheimer's disease is not yet known for sure. But what is indisputable is that one of its main anatomical characteristics is the appearance of so-called amyloid plaques in the brain. These are huge gatherings of small protein fragments called amyloid beta peptides. Many researchers believe it is the formation of these plaques which causes the destruction of nerve cells that, in turn, produces the behavioural symptoms of the disease. If this is true, stopping the plaques from forming should stop the disease from progressing.

Ever since the first suggestion that smoking might be protective, people have looked at tobacco to see if something in it inhibits plaque formation. Most have concentrated their attention on nicotine, since that drug is active in the brain, but with no great success. What Dr Dickerson and Dr Janda did was to look not at nicotine itself, but at nornicotine, one of the molecules that nicotine is turned into by the body, and particularly by the brain.

Dr Dickerson and Dr Janda have found by experiment that nornicotine is good at participating in a reaction called glycation, in which it reacts with glucose to form a molecule that goes on to react with a protein. They also observed that one specific place on the amyloid beta peptide should be especially susceptible to glycation. The shape of the resulting molecule means that glycating this site would, in turn, make it hard for the peptides to link up to form plaques.

And so it has proved. When nornicotine, glucose and peptide were incubated together, the result was a modified peptide that had little tendency to agglomerate. The mystery of the protective effect of smoking may now have been solved, although it remains to be seen whether a similar effect can be shown in brains.

None of this, everybody is keen to explain, should in any way be regarded as endorsing smoking. And it would surely be foolish to take the habit up early in life merely on the off-chance that it might ward off dementia in old age. But smoking takes years to impose its toll, so it is at least worth speculating whether the odd puff in late middle age might actually do more good than harm.

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Genetic modification

No-caffeine solution

Jun 19th 2003
From The Economist print edition

A new way to decaffeinate coffee

Get article background

AMONG the criticisms levelled at genetically modified crops is that there is nothing in them for the consumer. It is all very well protecting plants against pests, or making them herbicide-resistant so farmers can spray them with impunity, but that is not going to cause them to fly off the supermarket shelves. A genetic modification developed by Shinjiro Ogita and his colleagues at the Nara Institute of Science and Technology in Japan could, though, break through this consumer resistance by making a GM product that people actually want to buy.

Dr Ogita, who published details of his invention in this week's *Nature*, has discovered a way to grow decaffeinated coffee beans. Surprisingly to those who see coffee as the only way to get going in the morning, and are astonished that it is not banned as a dangerous stimulant by nannying health authorities, there are people who like the taste of coffee, but don't want the actual caffeine. At the moment, these deluded individuals have to live in an unwelcome limbo, for the solvents used to extract caffeine from beans also remove a lot of other chemicals, and thus detract significantly from the flavour.

Dr Ogita gets round this by stopping coffee plants making caffeine in the first place. He does it using a newish technique called RNA interference.

RNA interference works by mugging the molecules, known as messenger RNAs, that carry instructions from the genes in a cell's nucleus to the protein-making apparatus. Unlike DNA, which is a double-stranded molecule, RNA is normally single-stranded. In nature, double-stranded RNA is found only in some viruses, so cells react badly to its presence, sending enzymes out to chop it up in pretty short order. Dr Ogita and his colleagues therefore engineered pieces of genes into coffee plants to produce strands of RNA that are complementary to those used to make one of the enzymes involved in caffeine synthesis.

These complementary strands link up with normal ones to form double strands, which are then destroyed by the cell. (Double-stranded RNA would be no good for protein synthesis anyway, so there is a belt-and-braces aspect to this approach.) The result is a lot less caffeine—a reduction of as much as 70%. So in this case, assuming that Dr Ogita's pilot project can be scaled up and commercialised, there really will be nothing in it for consumers—and that will be exactly what they want.

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Contemporary art

Morte a Venezia

Jun 19th 2003 | VENICE
From The Economist print edition

Far from being the world's premier contemporary-art show, much of the Venice Biennale this year is a mess

WHEN the high point of a Venice Biennale is an exhibition of corpses that isn't part of the official show, you know something is not quite right. The bleak subject matter notwithstanding, Marlene Dumas's images do at least exude a sense of visual power and artistic strength that is largely missing from the 50th Venice Biennale. Her paintings also served, at least in the opening week, as unlikely icons for the viewers who had to trek through a record number of art works in a heat wave so bad that three people died and the children of Venice were jumping into the canals.

Launched more than a century ago, the Biennale should bring together the world's best new art in a series of national pavilions. In recent years, it has been the Biennale director who has gathered together the most dynamic selection in the old shipworks and the rope factory of the Venetian republic. This year, however, the new director, Francesco Bonami, abandoned any attempt at curating the event himself or presenting a coherent vision of the state of art today. Instead, Mr Bonami invited nine other curators to create a series of conflicting exhibitions, which jostled against each other in the vast spaces of the Arsenale.

The decision had the effect of turning Bonami's Biennale into a form of channel-hopping on cable TV—hundreds of programmes but not much you want to watch. The mix-and-match approach might have suited a student show, but for those who flocked to the city hoping to learn something from the world's most venerable modern-art exhibition, it was disappointing and confusing.

Mr Bonami's installation is particularly unfair to the artists, many of whom are very talented and whose work deserves to be seen in better circumstances. In “Utopia Station”, which explores the possibility of creating a perfect world, Superflex, a dynamic Danish collective staged a performance about guarana cola in Brazil that proposed reshaping the economics of the soft-drinks industry so that it favours local growers.

Another piece is a video by an Albanian artist, Anri Sala, who also showed some interesting work in the last Biennale. His film documents a mad mayor of an anonymous eastern European town who decides literally to paint over the cracks of communism by painting his crumbling city in bright colours: tower-

blocks in Mondrian designs and streets painted in ice-cream hues acting as a communitarian weapon against the dehumanising effects of poverty, desperation and concrete. Both are strong artists, but their work had to fight Mr Bonami's unfocused presentation.

Art from Latin America made a strong showing, thanks to the efforts of two guest curators, Carlos Basualdo and Gabriel Orozco, who is also an artist. Mr Basualdo, a co-curator of the 2002 Documenta exhibition in Kassel, was keen to explore new forms for urban living. A movable, portable house by a young sculptor named Marepe, from Salvador de Bahía in Brazil, is a witty yet practical approach to urban housing shortages. Its hinged rooms move like the limbs of a *capoeira* dancer and can be deployed in any direction to suit the terrain.

Across the room is a display of some innovative work by a Slovenian artist-cum-anthropologist, Marjetica Potrc, who looks at how people in different countries dream up designs specially adapted to their environment. In particular, she showcased a South African invention—the hippo water roller. This simple and ingenious mechanism has transformed the lives of young children charged with supplying their families and villages with water before they leave for school every morning. In other countries, it has had the unexpected side effect of protecting children from exploding landmines.

Mr Orozco made the most aesthetic installation in the shipworks. As an artist and a curator, he is particularly interested in the surreal elements of everyday life, and he has taken a playful approach to the art he has chosen for the show. Viewers who wondered why the lights kept going out found a label for a work by Fernando Ortega entitled “Every time a fly gets electrocuted, the power supply in this room is interrupted, provoking a momentary blackout.” Don't try this at home.

If Mr Bonami's non-curating proved less than successful, the Biennale's national pavilions, each curated by their host country, offered the most interesting work. Chris Ofili, who is known for creating paintings out of elephant dung, transformed the British pavilion into a suite of rooms that are drenched in the red, black and green colours of the pan-African flag that was proposed by Marcus Garvey. His goal was to bring black British culture to the Biennale by presenting a temple of love; in each room there is a painting of a couple in an idealised African landscape. A specially constructed coloured glass ceiling creates a theatrical effect that stops viewers in their tracks.

Israel is the best

Fred Wilson, an American artist, also looks at black culture, particularly where it fits into the history of Venice from Othello on. Olafur Eliasson has turned the Danish pavilion into a series of light-infused structures, where the windows are giant kaleidoscopes, allowing viewers to expand their vision by taking in the new angles and colours all around them. The giant constructivist labyrinth that Pedro Cabrita Reis has set against the ancient grain warehouse on the Giudecca, where the Portuguese pavilion is located, is a magnificent juxtaposition of ancient and modern.

The strongest pavilion, though, is Israel's. Michal Rovner was initially ambivalent about representing her country, and she wanted to share the pavilion with a Palestinian artist. After much wrangling, the Israelis agreed to do this, though the Palestinian authorities refused. Working alone, Ms Rovner has made a poetic series of film works that ask questions about mass culture and individuality, science and morality and the order and chaos of human life. “I am asking the viewer to look at humanity from a different viewpoint,” she says. “When does it become something you don't want to be associated with and what do you want to do about it?”

Ms Rovner's clinical images of scattered masses and the inevitable entropy of life sum up this year's Biennale. It is hard to know what art will endure from this show. Despite looking at well over 300 works in dozens of disparate locations, one couldn't help repeating Peggy Lee's immortal question: “Is that all there is?”

The Venice Biennale is on until November 2nd 2003. For more information, see www.labiennale.org

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About sponsorship

Chinese immigration

A ragged tale of riches

Jun 19th 2003
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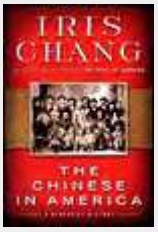
THE Chinese, President Grover Cleveland proclaimed in 1888, are “an element ignorant of our constitution and laws, impossible of assimilation with our people, and dangerous to our peace and welfare.” That decade, with its acts excluding fresh Chinese immigrants and even blocking re-entry to those Chinese who had temporarily returned home, broke the myth that the United States was an all-embracing haven for the world's huddled masses. But what of the story of the Chinese in America themselves?

The Chinese in America: A Narrative History
By Iris Chang



Viking; 496 pages; $29.95

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Because of anti-Chinese hysteria—from the race riots in western mining towns in Cleveland's time to the nasty late-1990s witchhunt by the Clinton administration and the *New York Times* of Wen Ho Lee, a Taiwanese-American scientist at Los Alamos who was falsely accused of passing nuclear warhead technology to China—the Chinese in America have generally chosen to keep a low profile. It is time their story was given a wider airing. The strength of Iris Chang's book is that she is steeped in her subject, but it has weaknesses.

Narrative history often paints individual lives with too epic a sweep. The turmoil in China that has so often been the backdrop to emigration in the past 150 years is described rather too broadly here to be of much help. The importance among new Chinese arrivals of local clans and identities back in mainland China is not sufficiently emphasised. Why, for instance, do the wealthy snakeheads who organise much of the illegal immigration into America come from one small district in Fujian province? Ms Chang does not travel there—or not obviously even to New York's Chinatown—to find out.

AP

Hands across the Pacific

Her descriptions of the early Chinese in America battling blizzards, mudslides and mistreatment in the mining and railroad camps have the flavour of an old newsreel. It is not a format for insight, or irony of the intended sort. Thus, where the reader wants to know more about the consequences of the sexual frustration of all-male Chinese communities far from home (there was prostitution and violence, of course, but also an intriguing round of Chinese-Irish marriages), Ms Chang's vagueness is unintendedly funny. “Entrepreneurs in the world's oldest profession,” she writes, “rode furiously on horseback from camp to camp, trying to fit as many clients as possible into their schedules.”

Similarly, she fails to look closely at the role of the Chinese in America in the growth, if not of globalisation, then of a ring of economic connections and population shifts that have turned the Pacific into a flourishing and unified economic space. What of Chinese-America's equivalent of Yip Sang, an early example of what Felipe Fernandez-Armesto calls “Pacific man”? In the late 19th century he left Fujian province for San Francisco and then Vancouver, where he became an agent of the Canadian Pacific Railroad; by the early 1900s, his own company had a flourishing international trade between San Francisco, Vancouver, Yokohama and Hong Kong.

Ms Chang does not delve into the Pacific ties that might have made such a man. She does say that,

during the gold rush, many Californians shipped their laundry to be cleaned in Hong Kong, at $1 a shirt. If this is true—and it is a staggering proposition, given that the Pacific Mail Steamship Company made just a dozen sailings a year, taking 33 days—then the subject deserves a chapter, not just the briefest of mentions.

The Chinese in America: A Narrative History.
By Iris Chang.
Viking; 496 pages; $29.95

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About sponsorship

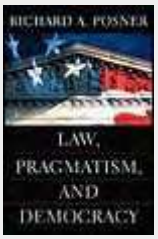
Richard Posner

Sense and nonsense

Jun 19th 2003
From The Economist print edition

RICHARD POSNER is a prodigy. A law-school professor and full-time federal judge, he is also one of the most prolific writers on legal and political issues in America. For decades, he has produced a steady stream of articles and books, festooned with footnotes, on a bewildering array of topics, from the structure of court systems to sex, literature, politics, Hegel, Homeric society and medieval Iceland. He is a hero to America's political conservatives, and a marvel to intellectual fans and opponents alike. His latest book, “Law, Pragmatism, and Democracy” is a summation of his core beliefs, and as such it is bound to attract wide attention among legal thinkers and policy wonks.

Law, Pragmatism, and Democracy
By Richard A. Posner



Harvard University Press; 416 pages; $35 and £23.50

Buy it at
Amazon.com
Amazon.co.uk

Whether it deserves this attention is another matter. For Mr Posner is not only America's most prolific writer on legal subjects, he is also one of the strangest. He has solid intellectual achievements to his credit, most notably his pioneering work in the 1970s on the hitherto neglected relationship between law and economics.

And yet he can be, well, loony. His proposals for a free market in babies or his explanation of why high-heeled shoes are considered sexy for women (they make it harder to run away from husbands) might be defended as adventurous antidotes to lazy thinking. But his loathing of public intellectuals who pronounce on subjects about which they are not expert is bizarre for a man who himself is keen to comment on virtually everything.

His greatest bugbears would seem to be philosophers, and moral philosophers in particular. They irritate him so much that when he attacks them, he often loses his head, stomping with relish on their arguments rather than answering them. This vehemence is particularly odd, given that Mr Posner's main point about philosophy is that it does not matter in the least.

“Law, Pragmatism, and Democracy” is intended to be a more positive effort—a statement of his own beliefs. But in setting out his views, Mr Posner exposes two problems, both of them considerable.

The first is their incoherence. Mr Posner has long called himself a pragmatist, but he insists that he is not a philosophical pragmatist like William James, John Dewey, Richard Rorty or other leading lights of America's main philosophical movement. Although he feels less hostile to these thinkers than to others, even their speculations are too abstract for him.

Instead, Mr Posner describes himself as an “everyday” pragmatist. Despite the thousands of words he devotes to the subject, it is not really clear what he means by this. He seems to mean that he is in favour of ignoring general moral and ethical principles because they are meaningless. All that counts—and what judges should consider above all else in interpreting the law—is what is sensible and produces the best result from society's point of view.

But these are highly controversial questions, and the answers to them invariably involve assumptions about moral principles. Mr Posner's approach is essentially hollow, amounting to little more than a demand that people not think too deeply about issues.

The second problem with many of Mr Posner's ideas is that they seem inappropriate for a senior judge to be expounding. For example, he argues strongly in this book for the notion that democracy has little to do with rational deliberation or citizen involvement, but is instead merely a matter of competition between self-interested elites for the temporary favour of an apathetic and ignorant electorate.

As a description of how America's democracy actually works, this is certainly plausible, but Mr Posner goes beyond this description to argue that this is the best that can be expected from the system and those who use it. That is a disconcertingly scornful view for a judge to take of the American public.

More troubling still is Mr Posner's view that judges should impose their own policy choices on a case whenever ambiguity in the law gives them the discretion to do so. Many judges do this, though nearly all deny it, justifying their decisions instead by reference to laws and court precedents. Mr Posner thinks this is usually legal flim-flammery, and that frank judicial activism would be better. Few people, on the right or the left, would swallow this.

Mr Posner is a spirited analyst of contemporary politics, and he can be an entertaining and provocative thinker. His account of the controversial Supreme Court decision awarding George Bush the presidency is well worth reading. But as his book also makes clear, he is not much of a legal theorist, and he might have made a better legislator, academic or even political campaigner than a judge.

Law, Pragmatism, and Democracy.
By Richard A. Posner.
Harvard University Press; 416 pages; $35 and £23.50

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About sponsorship

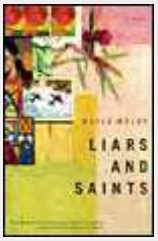
New American fiction

The richness of deceit

Jun 19th 2003
From The Economist print edition

TWO years ago, Maile Meloy's excellent short-story debut, “Half in Love”, showed her to be a connoisseur of catastrophe. Ms Meloy put her characters through hell, piling on mishaps and misfortunes, though without ever losing her stylistic cool. In “Liars and Saints”, her first novel, she does much the same thing as she tells the tightly intertwined stories of four generations of one highly disaster-prone family.

Liars and Saints
By Maile Meloy



Scribner; 272 pages; $24

Buy it at
Amazon.com
Amazon.co.uk

Teddy and Yvette are devout young Catholics who marry during the second world war, before Teddy ships out for the south Pacific. Ms Meloy has a gift for compression. By the end of the first chapter, the couple have two daughters, Margot and Clarissa, and Teddy has been called up again to fight in Korea.

The calamity that sets the pattern for the future occurs while Teddy is at war. A handsome photographer visits Yvette to take her picture. After a couple of drinks, he tries his luck with a kiss and a grope, and Yvette shows him the door. At first she thinks she should keep the encounter a secret from her husband. But her priest urges her to come clean. This turns out to be a big mistake. Teddy is inconsolable. Their marriage, he feels, has been poisoned, seemingly for good.

Carnal secrets of less innocent kinds will plague their children as well, starting with Margot, who gets pregnant in a one-night stand with her school dancing instructor. To keep Margot's secret, Yvette pretends to be pregnant herself. She tells Teddy she wants to have the baby away from home, in a convent. Meanwhile, she packs Margot off to France. In due course the baby is brought home as Yvette's son, the deception complete. It's all downhill from there. Without giving away too much, prurient readers have S&M, incest and lesbianism to look forward to, as younger clan members grow up and make their own life-wreckingly bad decisions.

What raises “Liars and Saints” above the level of soap-opera is Ms Meloy's calmly efficient, pared-down prose, and her keen perceptions about ordinary—and not so ordinary—human weakness. Admirers of “Half in Love” will find much to enjoy here too.

Liars and Saints.
By Maile Meloy.
Scribner; 272 pages; $24

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A house on Cape Cod

Sound of waves

Jun 19th 2003
From The Economist print edition

IN WINTER, a summer house is full of memories—a beach towel tossed aside, a dead hornet on the windowsill—and equally full of anticipation. In his second book, George Howe Colt, a former *Life* magazine writer, recalls how four generations of the Colt family were shaped by the house that his great-grandfather began building at Wings Neck on Cape Cod in 1903. Of a lightning pre-summer visit, he writes: “Dormant life lies everywhere, waiting to be picked up.”

For Mr Colt's grandmother, the summer house was a refuge where the family could regroup and recoup from the scattering shards of the second world war; for the author it was, inevitably, the place where he first crossed the Maginot line of a babysitter's black cotton underwear—a memory that lives on in his mind, delicious and unrepeatable.

However, what lifts this book from being a series of mere elegiac recollections is the elegance of Mr Colt's writing, and the clarity with which he explores the tensions within large families—through life, death and divorce—and how easily Eden-like childhood memories co-exist with a sense that something is not quite right. Like waking up at night to the sound of a Chelsea ship's clock chiming seven times—and not knowing if that means 11.30pm or 3.30am—this book is full of uncertainty, wonder and surprise.

The Big House: A Century in the Life of an American Summer Home.
By George Howe Colt.
Scribner; 327 pages; $26

The Big House: A Century in the Life of an American Summer Home
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About sponsorship

The Russian summer house

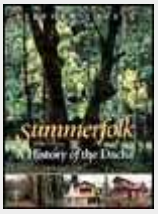
Country life

Jun 19th 2003
From The Economist print edition

IN ANTON CHEKHOV'S play “The Cherry Orchard”, Lopakhin, the nouveau-riche businessman, begs the old-world landowner Ranevskaya to forgo the pleasures of fragrant white blossom every spring and let out her land as dacha plots in order that she can pay off her debts. “Dachas and dachniks—forgive me but that's so vulgar,” Ranevskaya replies, thus giving voice to the Russian nobility's contempt for middle-class aspirations to country living.

Exactly 100 years later, the last mohicans of the intelligentsia—the modern equivalent of the pre-revolutionary aristocracy—are similarly scornful of the pretensions of today's nouveau-riche Russian who prefers to call his dacha a*kottedzh*, even though it will probably be a vast marble-clad gothic pile complete with security fence and leather-jacketed heavies at the gate.

Summerfolk: A History of the Dacha, 1710-2000
By Stephen Lovell



Cornell University Press; 288 pages; $29.95

Buy it at
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As Stephen Lovell, a young London University historian, shows in this absorbing study, the Russian country cottage has undergone a significant evolution since its beginnings as a simple gift of land bestowed by the state (the word “dacha”, pronounced, roughly, “dutcher”, comes from the verb “to give”). Anxious to consolidate St Petersburg as a conurbation, Peter the Great forced his nobles to build second houses on the plots of land he gave them just outside the city. Throughout the 18th century the dacha thus grew into the preserve of Russia's social elite—a fashionable villa used for socialising in the summer months, and quite distinct from one's city mansion and hereditary manorial estate deep in the Russian heartlands.

As the urban populations grew bigger around Moscow and St Petersburg, however, Russian subjects of all backgrounds started to yearn for pastoral holiday retreats, and the 19th century saw a proliferation of residences of all shapes and sizes springing up outside the city, often in purpose-built dacha colonies—which are still popular today. With the belated expansion of Russia's railways at the end of the 19th century, it became possible to venture even farther afield, and the burgeoning middle class began to ape the fabled lifestyle of Russian aristocratic landowners, such as Chekhov's Ranevskaya or even Tolstoy himself, whose family fortunes were then going into terminal decline.

So deeply enshrined had the concept of the dacha become in the Russian psyche that it persisted into the apparently leisureless post-1917 age of shock-workers and five-year plans, despite the fact that private property was a rather glaring example of a way of life that had been supposedly done away with. At one end was the Soviet nomenklatura, who acquired palatial residences with staff and police protection, and at the other an increasingly desperate population struggling to cultivate their plots in order simply to eat.

Nowadays it's a free-for-all, with the main arteries into Moscow a sight to behold on a Sunday evening as everyone returns home after the weekend, with big jeeps creating new lanes on the hard shoulder or terrorising into submission all the uninsured little Zhigulis, the beat-up box-cars of the Soviet era (invariably carrying trays of eggs on the back shelf), in order to circumnavigate the frightful tailbacks.

Mr Lovell does a splendid job of telling the story of the dacha, which is by now a hallowed feature of Russian life. Each summer Moscow and St Petersburg still virtually shut down for July and August as millions of Russians head for the country, and no study of the Russian mentality can be complete without an understanding of a phenomenon which really has no proper equal in any other culture.

An enormous amount of research has gone into this attractive book, but the scholarship is worn lightly, and the writing style is lucid and often wryly amusing. There are many delightful illustrations and references to a wide range of relevant literary works.

Meanwhile, the tradition of growing vegetables at the dacha remains deeply rooted. Congratulating the 23m Russian dachniks with the official launch of the dacha season on May 1st, a popular weekly this year gave its readers the results of a poll it had conducted on a burning issue: 68% confirmed that they would be planting potatoes.

Summerfolk: A History of the Dacha, 1710-2000.
By Stephen Lovell.
Cornell University Press; 288 pages; $29.95

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About sponsorship

Donald Regan

Jun 19th 2003
From The Economist print edition

Donald Regan, aide and friend to Ronald Reagan, died on June 10th, aged 84

AP

WHEN Donald Regan became President Ronald Reagan's chief of staff in 1985 he remarked, “I'll be doing the whole thing now.” The “whole thing” that Mr Regan had in mind was to be in charge of the president's public life. It had been usual before he was appointed for the president to have a circle of close advisers, each in an important-sounding job and each competing for his ear. But Mr Regan, a former businessman, believed that the White House urgently needed one strong manager who would give the president dependable support. He said that Mr Reagan, a former film actor, “regarded his daily schedule as being something like a shooting script in which characters came and went, scenes were rehearsed and acted out, and the plot was advanced one day at a time.” The chief of staff, Mr Regan said, had to make sure that “the star had what he needed to do his best”, guided by a “crew, invisible behind the lights, watching the performance their behind-the-scenes efforts made possible”. There is a story that Mr Regan would arrive in the Oval Office each morning with a fresh joke to get the president in the mood to face the toils of stardom. Whether true or not, the story was believed.

However, just as Hollywood movie-making is bedevilled with rivalries, disloyalty and general malice, so was the White House during Mr Regan's time there. He lasted only two years, resigning before he was dumped. Newspapers indignantly portrayed him as a martinet who had made himself prime minister in all but name. Whatever the truth in that, his “crime” in the eyes of Washington politicians was that he did try to bring businesslike discipline to an institution that lived in disorder and was happy with it. Residents in the political village were upset that Mr Regan had not accorded them respect.

Viewers of a very watchable television drama called “The West Wing” are offered a picture of the White House where decisions are made swiftly by confident people working as a team who know exactly what they are doing. Perhaps they are these days: who knows? But by Mr Regan's account they certainly were not during the Reagan presidency.

Enter Nancy Reagan

Within the White House there were officials running their own private government. One group was in the basement, selling arms illegally to Iran in a bid to gain freedom for American hostages and using the profits to support anti-communist fighters in Nicaragua. After the story came out Mr Regan was blamed. He said, no doubt truthfully, that he knew nothing about it. He rarely went to the basement.

One of his continuing problems was what he called the “shadowy distaff presidency” run by Nancy Reagan. The president's wife had faith in the clairvoyant talents of a woman in San Francisco she called My Friend. From a study of Mr Reagan's horoscope the friend claimed to pick good days and bad days in the president's life. Mrs Reagan would in effect veto activities arranged by Mr Regan if they fell on bad days. Mr Regan described the vexing problem in his book “For the Record”:

> The president's schedule is the single most potent tool in the White House, because it determines what the most powerful man in the world is going to do and when he is going to do it. By humoring Mrs Reagan we gave her this tool, or, more accurately, gave it to an unknown woman in San Francisco who believed that the zodiac controls events and human behavior and that she could read the secrets of the future in the movement of the planets.

The friend was particularly busy with advice when Mr Reagan met Mikhail Gorbachev at summits at Geneva and Reykjavik. She prepared a horoscope of the Russian leader as well. Nothing much resulted from these meetings so perhaps, inadvertently, they were held on bad days. For Mr Regan anyway there must have been quite terrible days when he regretted taking the job. Until he had become chief of staff, his life had been one long much-praised path to good fortune.

His upbringing was modest. His father was a policeman. But the industrious young Regan won a scholarship to Harvard, where he studied law. As a marine in the second world war he came unscathed through some of the fiercest battles of the Pacific campaign. In 1946 he joined a brokerage later known as Merrill Lynch as a trainee. In 1971 he was made chief executive of the firm that he had helped transform into a large and innovative banking business. In 1981, during Ronald Reagan's first term, he entered government as treasury secretary. Again he was a success. The Economic Recovery Act that he piloted through Congress was an exercise in Reaganite supply-side economics, which is based on the belief that tax cuts get more people to work and boost production.

Mr Regan was probably closer to Ronald Reagan than any other official. When the president's popularity was dipping and a sacrificial victim was needed, Mr Regan said he would go, as long as he could do so with dignity. He was bitterly upset when it was leaked that his successor had secretly been chosen, spoiling his managed exit. Their last conversation, on the telephone, was bitter. “I deserved better treatment than this,” Mr Regan said. “I'm sorry,” said the great communicator. They never spoke to each other again.

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Overview

Jun 19th 2003
From The Economist print edition

World **stockmarkets** rallied again this week on hopes of a stronger recovery in America. The Dow Jones Industrial Average has now gained 24% from its low point in March; the Nasdaq is up by 32%. Tokyo rose by 2.3% over the week, to close 20% above its April low. Germany's DAX has seen the biggest rebound, with a jump of almost 50% in the past three months.

America's consumer prices were unchanged in May, making a 12-month inflation rate of 2.1%. Prices had been expected to fall, so the news helped to calm fears about incipient deflation. The core consumer-price index (excluding food and energy) rose by 0.3%, its biggest gain in ten months, lifting the 12-month core inflation rate to 1.6%. The University of Michigan's index of consumer confidence dropped unexpectedly in June as fears about jobs outweighed the recent rise in share prices. Industrial production rose by 0.1% in May, after falling sharply in the two previous months. Output was 0.8% lower than a year earlier.

In contrast, **euro-area** industrial production increased by a larger-than-expected 0.4% in April, to give an annual rise of 0.8%. Output fell sharply in the month in Germany and France, but it rose in Italy and Spain. French inflation eased to 1.8% in May, down from 2.0% in April.

Britain's underlying rate of inflation (excluding mortgage-interest payments) fell to 2.9% in May, still above the Bank of England's target of 2.5%. But on the harmonised index of consumer prices, the measure used in the euro area, inflation fell to 1.2%.

Sweden's 12-month rate of consumer-price inflation fell to 1.9% in May, down from 2.3% in April. Over the same period, its unemployment rate fell from 4.6% to 4.2%. Those campaigning against Sweden's entry into Europe's single currency point out that this is less than half the average jobless rate in the euro zone.

The **euro** regained its lifetime high of $1.193 on June 16th. It slipped back after America's higher-than-expected inflation figures caused investors to bet on a smaller cut in interest rates by the Federal Reserve at its policy meeting on June 24th-25th.

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Output, demand and jobs

Jun 19th 2003
From The Economist print edition

% change on year ago

	GDP latest		GDP qtr*	The Economist poll GDP forecasts 2003	2004	Industrial production latest		Retail sales (volume) latest		Unemployment % rate latest		year ago
Australia	+ 2.9	Q1	+ 2.8	+ 3.0	+ 3.6	+ 2.3	Q4	+ 4.0	Q1	6.0	May	6.2
Austria	+ 1.3	Q4	– 0.5	+ 0.9	+ 1.6	– 1.5	Dec	+ 0.9	Dec	4.3	May	4.1
Belgium	+ 1.3	Q1	+ 0.6	+ 1.0	+ 2.0	+ 1.6	Apr	– 1.7	Mar	11.4	May†	10.4
Britain	+ 2.2	Q1	+ 0.3	+ 1.8	+ 2.5	– 1.8	Apr	+ 3.1	May	5.1	Apr††	5.2
Canada	+ 2.6	Q1	+ 2.4	+ 2.6	+ 3.1	+ 2.0	Mar	+ 2.3	Mar	7.8	May	7.7
Denmark	+ 1.2	Q1	+ 1.4	+ 1.4	+ 2.2	– 0.2	Apr	– 1.6	Apr	5.8	Apr	5.0
France	+ 1.0	Q1	+ 1.0	+ 1.0	+ 2.2	– 0.5	Apr	+ 2.1	Apr	9.3	Apr	8.9
Germany	+ 0.2	Q1	– 0.9	+ 0.2	+ 1.4	– 0.3	Apr	+ 0.8	Apr	10.7	May§	9.7
Italy	+ 0.8	Q1	– 0.4	+ 0.9	+ 1.9	+ 1.7	Apr	– 1.6	Mar†	9.0	Jan	9.0
Japan	+ 2.6	Q1	+ 0.6	+ 0.9	+ 0.9	+ 3.4	Apr	– 2.7	Apr	5.4	Apr	5.3
Netherlands	– 0.1	Q1	– 1.2	+ 0.2	+ 1.7	– 0.8	Apr	+ 0.6	Feb	5.3	May**	3.8
Spain	+ 2.1	Q1	+ 2.0	+ 2.0	+ 2.7	– 4.2	Apr	+ 1.3	Mar	11.4	Apr	11.2
Sweden	+ 2.2	Q1	+ 2.4	+ 1.4	+ 2.3	+ 3.4	Apr	+ 4.9	Apr	4.2	May†	3.4
Switzerland	nil	Q1	– 1.0	+ 0.7	+ 1.7	– 2.1	Q4	– 3.1	Feb	3.6	May†‡	na
United States	+ 2.1	Q1	+ 1.9	+ 2.2	+ 3.3	– 0.8	May	+ 4.9	Apr	6.1	May	5.8
Euro area	+ 0.8	Q1	nil	+ 0.8	+ 2.0	+ 0.8	Apr	– 1.6	Mar	8.8	Apr	8.3
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Finland	+ 1.2	Q1	– 4.9	na	na	– 2.3	Apr	+ 4.9	Feb	11.4	May†	11.9
Greece	+ 4.3	Q1	na	na	na	– 0.1	Apr	na		na		na
Iceland	– 3.0	Q4	na	na	na	– 0.3	2002	na		3.6	May†	2.5
Ireland	+ 6.4	Q4	na	na	na	+ 3.7	Apr	+ 1.7	Mar	4.6	May	4.3
Luxembourg	+ 1.1	2002	na	na	na	+ 4.5	Mar	+ 4.6	Jan	3.6	Apr	2.7
New Zealand	+ 4.2	Q4	+ 2.0	na	na	+ 5.9	Q4	+ 6.4	Q1	5.0	Q1	5.3
Norway	+ 0.6	Q1	+ 1.3	na	na	–13.6	Apr	+ 4.5	Apr	4.4	Q1	4.1
Portugal	– 1.2	Q1	+ 0.3	na	na	– 3.1	Apr	+ 2.4	Apr	6.4	Q1†	4.5

*% change at an annual rate. †Not seasonally adjusted. ‡New series. ††Feb-Apr; claimant count rate 3.1% in May. §EU harmonised rate 9.4% in May. **Mar-May.

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Prices and wages

Jun 19th 2003
From The Economist print edition

% change on year ago

	Consumer prices		The Economist poll consumer prices forecast		Producer prices		Wages/earnings	
	latest	year ago	2003	2004	latest	year ago	latest	year ago
Australia	+ 3.4 Q1	+ 2.9	+ 2.7	+ 2.5	+ 3.0 Q1	+ 0.5	+ 4.3 Q1	+ 4.1
Austria	+ 1.1 May	+ 1.9	+ 1.5	+ 1.3	+ 0.6 May	− 0.8	+ 2.2 Apr	+ 2.4
Belgium	+ 1.0 May	+ 1.3	+ 1.4	+ 1.3	+ 0.2 Apr	− 0.2	+ 2.4 Q1	+ 3.1
Britain	+ 3.0 May	+ 1.1	+ 2.8	+ 2.4	+ 1.3 May	+ 0.1	+ 3.2 Apr	+ 3.3
Canada	+ 3.0 Apr	+ 1.7	+ 3.1	+ 2.1	− 0.1 Apr	− 1.1	+ 1.6 Mar	+ 3.2
Denmark	+ 2.2 May	+ 2.1	+ 2.4	+ 1.9	− 0.5 Apr	+ 0.3	+ 3.9 Q1	+ 4.0
France	+ 1.8 May	+ 1.4	+ 1.8	+ 1.4	+ 1.0 Apr	− 0.6	+ 2.9 Q1	+ 4.0
Germany	+ 0.7 May	+ 1.2	+ 1.0	+ 0.9	− 0.2 May	− 1.3	+ 3.7 Mar	+ 2.6
Italy	+ 2.7 May	+ 2.3	+ 2.4	+ 1.9	+ 2.0 Apr	− 0.8	+ 1.7 Apr*	+ 2.3
Japan	− 0.1 Apr	− 1.1	− 0.5	− 0.5	− 1.0 May	− 2.2	+ 1.9 Apr	+ 0.4
Netherlands	+ 2.3 May	+ 3.3	+ 2.5	+ 2.1	+ 2.5 Apr	− 1.0	+ 2.7 Apr	+ 3.9
Spain	+ 2.7 May	+ 3.6	+ 3.0	+ 2.6	+ 1.4 Apr	+ 0.5	+ 3.9 Q4	+ 3.7
Sweden	+ 1.9 May	+ 2.0	+ 2.4	+ 1.8	− 0.1 Apr	− 0.7	+ 0.9 Mar	+ 4.7
Switzerland	+ 0.4 May	+ 0.6	+ 0.7	+ 0.9	− 0.3 Apr	− 1.5	+ 1.8 2002	+ 2.5
United States	+ 2.1 May	+ 1.2	+ 2.3	+ 1.7	+ 2.5 May	− 2.9	+ 3.2 May	+ 2.6
Euro area	+ 1.9 May	+ 2.0	+ 1.9	+ 1.5	+ 1.7 Apr	− 0.6	+ 3.4 Q4	+ 3.2
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*							
Finland	+ 0.7 May	+ 1.4	na	na	− 1.3 May	− 1.8	+ 4.1 Q1	+ 3.2
Greece	+ 3.8 May	+ 3.4	na	na	+ 1.0 Apr	+ 3.7	na	na
Iceland	+ 1.8 Jun	+ 4.8	na	na	+ 3.3 Jun	+ 7.4	+ 5.6 Apr	+ 8.0
Ireland	+ 3.7 May	+ 4.7	na	na	− 7.5 Apr	+ 0.4	+ 6.8 Q4	+ 7.8
Luxembourg	+ 1.9 May	+ 1.9	na	na	+ 2.8 Mar	− 3.0	− 0.4 Feb	+ 2.5
New Zealand	+ 2.5 Q1	+ 2.6	na	na	− 0.9 Q4	+ 1.8	+ 2.3 Q1	+ 2.1
Norway	+ 2.1 May	+ 0.4	na	na	− 4.5 May	−11.3	+ 5.3 Q1	+ 4.6
Portugal	+ 3.7 May	+ 3.3	na	na	+ 2.0 Apr	+ 0.2	+ 1.1 Apr	+ 0.1

*New series.

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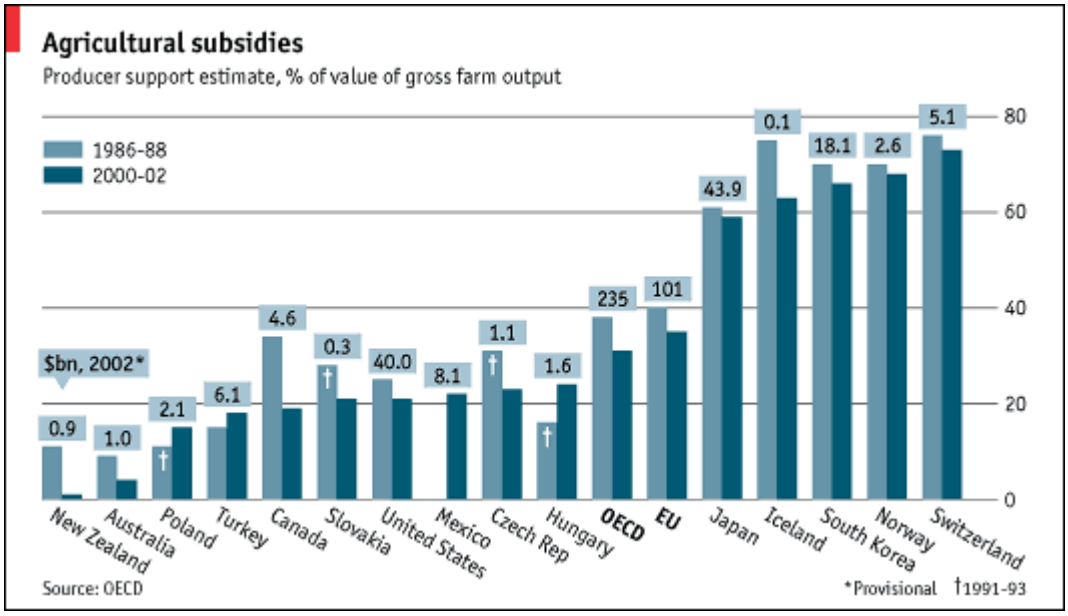
Agricultural subsidies

Jun 19th 2003
From The Economist print edition



Farm supports vary widely across OECD countries, as measured by the “producer support estimate”—the annual value of transfers from consumers and taxpayers to farmers. Although these subsidies have fallen relative to output in many countries since the late 1980s, the OECD says they are still too high, reaching $235 billion in OECD countries in 2002, and they continue to distort trade by encouraging inefficient production.

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Money and interest rates

Jun 19th 2003
From The Economist print edition

	Money supply* % change on year ago			Interest rates % p.a. (Jun 18th 2003)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+ 5.0	+10.8	Apr	4.64	5.05	4.16	4.77	5.92	5.56
Britain	+ 8.6	+ 8.0	Apr	3.59	4.13	3.29	4.06	4.97	5.62
Canada	+ 6.3	+ 5.8	Apr	3.11	2.73	2.87	4.32	5.35	6.09
Denmark	+ 7.4	+ 9.7	Apr	2.25	3.65	2.13	3.86	5.14	5.23
Japan	+ 4.8	+ 1.6	May	0.02	0.02	0.03	0.52	1.34	0.56
Sweden	+ 4.1	+ 4.5	Apr	2.69	4.26	2.82	4.14	5.37	3.28
Switzerland	+27.6	+10.6	May	0.27	1.27	0.01	2.34	3.17	3.16
United States	+ 6.4	+ 6.6	May	0.95	1.75	1.25	3.36	4.72	4.89
Euro area†	+11.1	+ 8.7	Apr	2.14	3.47	2.04	3.66	4.89	3.66

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. †Germany for bonds. Benchmarks: US 30-year 4.39%, Japan No.250 0.53%. Central bank rates: US fed funds 1.25%, ECB refinancing 2.00%, BOJ overnight call 0.001%, BOE repo 3.75%. Sources: Commerzbank, Danske Bank, J.P. Morgan Chase, Royal Bank of Canada, Stockholmsbörsen, UBS Warburg, Global Insight, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Jun 19th 2003
From The Economist print edition

1995=100

	Jun 10th	Jun 17th*	% change on one month	% change on one year
Dollar index				
All items	77.4	76.9	– 1.0	+10.3
Food	78.6	77.4	– 3.5	+12.4
Industrials				
All	75.9	76.1	+ 2.6	+ 7.5
Nfa†	78.0	79.9	+ 4.9	+10.1
Metals	74.1	72.9	+ 0.7	+ 5.2
Sterling index				
All items	74.1	71.8	– 4.1	– 2.9
Euro index				
All items	87.2	85.6	– 2.4	–11.5
Yen index				
All items	97.0	96.6	+ 0.1	+ 4.6
Gold				
$ per oz	353.50	363.25	– 1.2	+13.9
West Texas Intermediate				
$ per barrel	31.66	31.06	+ 6.7	+22.5

* Provisional. † Non-food agriculturals.

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Stockmarkets

Jun 19th 2003
From The Economist print edition

Market indices

	Jun 18th	2003 high	2003 low	% change on one week	% change on record high	% change on Dec 31st 2002 in local currency	% change on Dec 31st 2002 in $ terms
Australia (All Ordinaries)	3,057.7	3,077.0	2,673.3	+ 0.7	-11.1	+ 2.8	+22.8
Austria (ATX)	1,306.5	1,325.7	1,120.2	- 0.1	-24.8	+13.6	+26.6
Belgium (Bel 20)	1,981.0	2,074.1	1,426.6	- 0.7	-46.2	- 2.2	+ 9.0
Britain (FTSE 100)	4,207.0	4,207.0	3,287.0	+ 1.4	-39.3	+ 6.8	+11.2
Canada (Toronto Composite)	7,103.5	7,121.0	6,228.6	nil	-37.6	+ 7.4	+27.0
Denmark (KBX)	188.3	188.8	145.0	+ 0.1	-37.6	+13.3	+26.2
France (SBF 250)	2,154.5	2,154.5	1,630.1	+ 2.4	-50.9	+ 4.9	+16.9
(CAC 40)	3,213.9	3,213.9	2,403.0	+ 2.9	-53.6	+ 4.9	+16.9
Germany (DAX)	3,304.2	3,304.2	2,203.0	+ 4.0	-59.0	+14.2	+27.3
Italy (BCI)	1,195.9	1,195.9	959.4	+ 2.0	-45.2	+ 9.5	+22.0
Japan (Nikkei 225)	9,093.0	9,093.0	7,607.9	+ 2.3	-76.6	+ 6.0	+ 6.1
(Topix)	893.6	893.6	770.6	+ 2.2	-69.0	+ 6.0	+ 6.1
Netherlands (AEX)	306.6	337.3	218.4	+ 1.6	-56.3	- 5.0	+ 5.8
Spain (Madrid SE)	731.6	731.6	576.8	+ 3.3	-36.2	+15.4	+28.6
Sweden (Affarsvarlden Gen)	158.6	158.6	127.8	+ 2.2	-60.4	+ 9.2	+22.7
Switzerland (Swiss Market)	4,992.5	4,992.5	3,675.4	+ 3.1	-40.7	+ 7.8	+12.8
United States (DJIA)	9,293.8	9,323.0	7,524.1	+ 1.2	-20.7	+11.4	+11.4
(S&P 500)	1,010.1	1,011.7	800.7	+ 1.3	-33.9	+14.8	+14.8
(NASDAQ Comp)	1,677.1	1,677.1	1,271.5	+ 1.9	-66.8	+25.6	+25.6
Europe (FTSE Eurotop 300)*	884.1	890.8	682.7	+ 2.7	-48.1	+ 3.2	+14.9
Euro area (FTSE Ebloc 100)*	758.6	758.6	565.7	+ 2.9	-51.1	+ 5.6	+17.6
World (MSCI)†	905.4	907.3	710.8	+ 1.5	-37.5	na	+14.3
World bond market (Citigroup)‡	574.1	583.9	518.6	- 1.1	- 1.7	na	+ 9.3

*In euro terms. †Morgan Stanley Capital International index includes individual markets listed above plus eight others, in dollar terms.
‡Citigroup World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

Jun 19th 2003
From The Economist print edition

	Trade balance*, $bn latest 12 months		Current account $bn latest 12 mths		The Economist poll % of GDP, forecast 2003	2004	Exchange rate trade-weighted† 1990=100 Jun 18th	year ago	Currency units per $ Jun 18th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2003‡
Australia	− 9.0	Apr	− 20.8	Q1	− 4.3	− 3.6	83.8	76.9	1.49	1.77	2.49	1.74	1.25	0.2
Austria	+ 0.7	Mar	+ 1.4	Mar	− 0.1	− 0.3	102.3§	100.1	0.86	1.05	1.43	–	0.72	-1.3
Belgium	+ 17.3	Apr	+ 11.1	Feb	+ 4.9	+ 5.0	102.2§	98.9	0.86	1.05	1.43	–	0.72	nil
Britain	− 56.8	Apr	− 13.1	Q4	− 1.6	− 1.5	100.5	104.1	0.60	0.67	–	0.70	0.50	-1.9
Canada	+ 36.2	Apr	+ 13.9	Q1	+ 1.6	+ 1.5	87.3	77.6	1.34	1.54	2.24	1.56	1.13	1.1
Denmark	+ 9.2	Apr	+ 5.7	Apr	+ 2.4	+ 2.4	106.6	102.7	6.35	7.78	10.7	7.42	5.36	1.6
France	+ 7.4	Apr	+ 25.3	Apr	+ 1.7	+ 1.5	105.5§	101.5	0.86	1.05	1.43	–	0.72	-3.6
Germany	+124.7	Apr	+ 48.6	Apr	+ 2.0	+ 1.6	102.8§	98.4	0.86	1.05	1.43	–	0.72	-3.7
Italy	+ 5.4	Apr	− 11.5	Mar	− 0.4	− 0.3	75.2§	72.4	0.86	1.05	1.43	–	0.72	-2.4
Japan	+ 95.4	Apr	+111.7	Apr	+ 2.5	+ 2.6	127.0	132.2	119	124	199	139	–	-7.7
Netherlands	+ 29.5	Apr	+ 2.9	Q1	+ 2.9	+ 3.1	101.6§	97.8	0.86	1.05	1.43	–	0.72	-1.6
Spain	− 43.6	Mar	− 19.8	Mar	− 2.2	− 2.2	76.6§	74.2	0.86	1.05	1.43	–	0.72	-0.4
Sweden	+ 15.5	Apr	+ 11.5	Q1	+ 3.6	+ 3.6	81.7	77.9	7.76	9.50	13.0	9.07	6.55	0.7
Switzerland	+ 5.0	Apr	+ 32.0	Q4	+11.7	+11.7	112.3	113.5	1.32	1.54	2.22	1.55	1.12	na
United States	−519.7	Apr	−503.4	Q4	− 5.3	− 5.4	101.6	115.7	–	–	1.68	1.17	0.84	-4.6
Euro area	+ 87.2	Mar	+ 48.0	Mar	+ 0.7	+ 0.6	90.8	81.3	0.86	1.05	1.43	–	0.72	-2.5
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 13.4	Apr	+ 9.9	Mar	na	na	81.1§	77.9	0.86	1.05	1.44	–	0.73	3.1
Greece	− 22.8	Mar	− 11.1	Mar	na	na	59.1§	57.5	0.86	1.05	1.44	–	0.73	-1.0
Iceland	+ 0.1	Apr	nil	Q1	na	na	97.7**	86.9	73.4	89.2	123	85.8	61.9	nil
Ireland	+ 36.2	Mar	− 0.2	Q4	na	na	93.4§	87.0	0.86	1.05	1.44	–	0.73	-0.8
Luxembourg	− 3.1	Feb	+ 1.7	Q4	na	na	102.2§	98.9	0.86	1.05	1.44	–	0.73	0.2
New Zealand	− 0.9	Apr	− 1.9	Q4	na	na	98.0	90.3	1.71	2.05	2.87	2.00	1.44	0.8
Norway	+ 27.8	May	+ 27.5	Mar	na	na	98.3	105.0	7.00	7.72	11.7	8.18	5.91	11.3
Portugal	− 12.5	Mar	− 8.1	Mar	na	na	92.5**	90.0	0.86	1.05	1.44	–	0.73	-3.2

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, April average. ‡OECD forecast. **IMF, February average.

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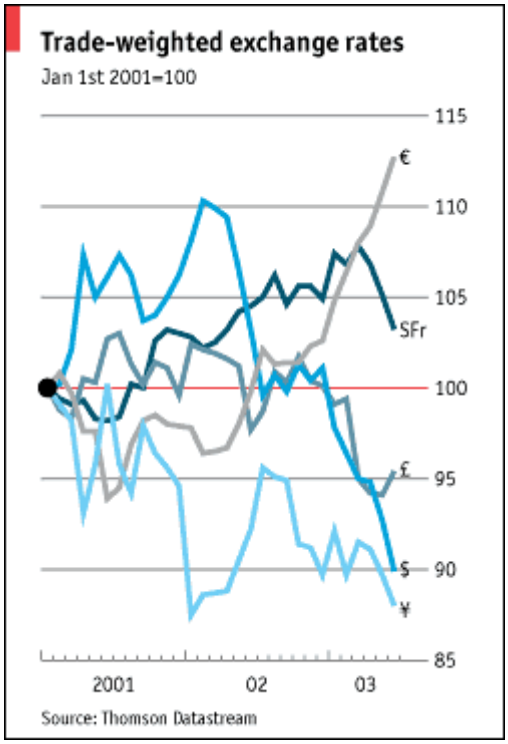
Trade-weighted exchange rates

Jun 19th 2003
From The Economist print edition



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Overview

Jun 19th 2003
From The Economist print edition

Russia's industrial output rose by 8.5% in the 12 months to May. **Poland's** industrial output grew even faster, by 11.7% in the 12 months to May, up strongly from growth of 8.5% in the 12 months to April. Consumer-price inflation edged up to 0.4% in May.

In the 12 months to May, **Israel's** consumer-price inflation fell to 1.6%, the lowest rate since December 2001. Also in the 12 months to May, Israel's trade deficit narrowed slightly to $5.6 billion. The shekel touched an 18-month high against the dollar.

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Oil reserves

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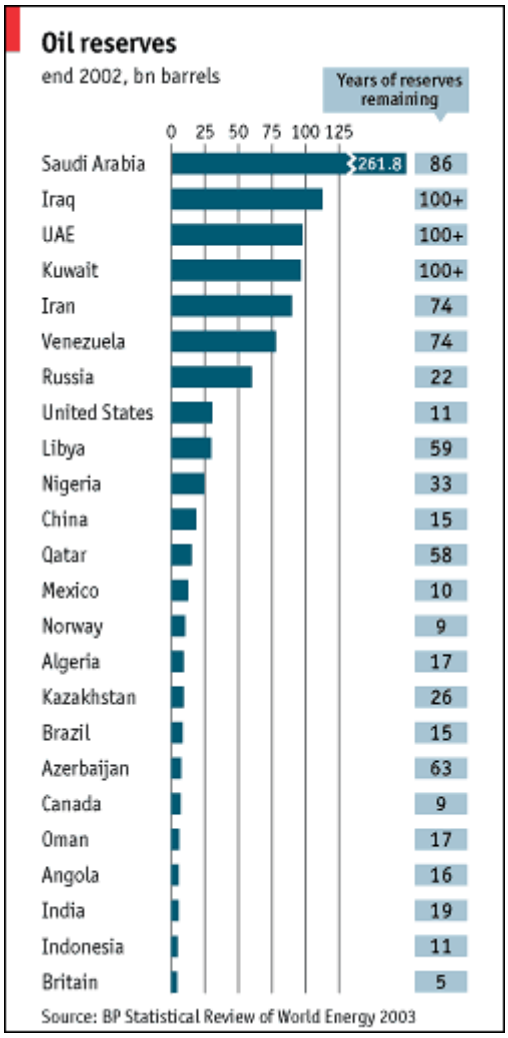
From The Economist print edition

The Chinese economy set the pace for world energy consumption last year, according to BP's annual statistical review. Although China's figures should always be treated with caution, this report suggests that the country's energy demand grew by nearly a fifth last year. That lifted world growth in energy consumption to 2.6%, well above the ten-year trend of 1.4% per year. BP reckons that natural gas is now overtaking coal as a global energy source. Since natural gas is less carbon-intensive and also burns more cleanly than coal, that is good news for both human health and the environment.



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Economy

Jun 19th 2003
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	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 9.9	Q1	+13.7	May	+ 1.0	Apr	+22.2	May	+35.4	2002	320.9	Mar
Hong Kong	+ 4.5	Q1	– 9.2	Q4	– 1.8	Apr	– 8.0	Apr	+13.8	Q4	116.1	May
India	+ 2.6	Q4	+ 4.9	Apr	+ 5.1	Apr	–10.1	Apr	+ 4.8	Q4	77.9	May
Indonesia	+ 3.4	Q1	+29.2	Feb	+ 6.9	May	+25.5	Apr	+ 7.1	Q3	32.6	Apr
Malaysia	+ 4.0	Q1	+11.8	Apr	+ 1.0	May	+15.6	Apr	+ 7.3	Q4	34.4	Apr
Philippines	+ 4.5	Q1	+ 7.3	Mar	+ 2.7	May	– 0.1	Apr	+ 3.1	Feb	12.7	May
Singapore	+ 1.6	Q1	– 5.0	Apr	+ 0.9	Apr	+11.5	Apr	+21.3	Q1	85.8	May
South Korea	+ 3.7	Q1	+ 1.8	Apr	+ 3.2	May	+ 7.6	May	+ 2.6	Apr	123.6	Apr
Taiwan	+ 3.2	Q1	– 0.7	Apr	+ 0.3	May	+16.5	Apr	+25.9	Q1	175.2	May
Thailand	+ 6.1	Q4	+16.2	Apr	+ 1.9	May	+ 4.3	Apr	+ 8.6	Apr	38.0	May
Argentina	+ 5.2	Q1	+12.6	Apr	+14.3	May	+16.8	Apr	+ 8.9	Q4	11.4	May
Brazil	+ 2.0	Q1	– 4.2	Apr	+17.2	May	+19.3	May	– 3.4	Apr	41.5	Apr
Chile	+ 3.5	Q1	+ 0.6	Apr	+ 3.5	May	+ 2.2	Apr	– 0.6	Q1	15.9	Apr
Colombia	+ 3.8	Q1	+15.3	Mar	+ 7.7	May	– 0.4	Feb	– 1.6	Q4	10.6	May
Mexico	+ 2.3	Q1	– 4.8	Apr	+ 4.7	May	– 6.9	Apr	–12.7	Q1	53.6	May
Peru	+ 2.5	Apr	– 0.5	Apr	+ 2.4	May	+ 0.4	Apr	– 1.1	Q4	9.7	May
Venezuela	–29.0	Q1	–14.7	Mar	+35.0	May	+15.0	Q1	+ 9.5	Q1	9.9	Mar
Egypt	+ 3.1	2002†	+ 4.2	2002†	+ 3.6	Mar	– 7.4	Jan	+ 0.5	Q4	13.1	Apr
Israel	+ 0.3	Q1	+ 2.9	Mar	+ 1.6	May	– 5.6	May	– 0.5	Q1	23.7	May
South Africa	+ 2.5	Q1	– 4.9	Apr	+ 7.8	May	+ 3.3	Apr	+ 0.3	Q4	6.0	Apr
Turkey	+11.4	Q4	+ 4.2	Apr	+30.7	May	–17.3	Mar	– 3.7	Mar	26.9	Apr
Czech Republic	+ 2.2	Q1	+ 5.6	Apr	0.0	May	– 2.7	Apr	– 4.4	Q1	26.1	May
Hungary	+ 2.7	Q1	+ 6.8	Apr	+ 3.6	May	– 2.5	Mar‡	– 2.5	Mar	10.9	May
Poland	+ 2.1	Q4	+11.7	May	+ 0.4	May	–10.0	Apr	– 5.5	Apr	29.9	Apr
Russia	+ 5.2	Q4	+ 8.5	May	+13.6	May	+52.1	Apr	+38.3	Q1	61.1	May
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Pakistan	+ 3.6	2002†	+15.8	Nov	+ 2.6	May	– 1.5	Apr	+ 2.7	2002†	9.7	Apr
Saudi Arabia	+ 0.7	2002§	na		– 1.4	Mar	+38.6	2002§	+11.7	2002	23.1	Apr

*Excluding gold, except Singapore; IMF definition. †Year ending June. ‡New series. §Economist Intelligence Unit estimate.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

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Financial markets

Jun 19th 2003
From The Economist print edition

	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Jun 18th		Dec 31st 2002	
	Jun 18th	year ago	Jun 18th	% p.a.		one week	in local currency	in $ terms
China	8.28	8.28	13.9	na	1,627.2	−0.8	+ 14.7	+ 14.7
Hong Kong	7.80	7.80	13.1	1.11	9,970.3	+3.2	+ 7.0	+ 7.0
India	46.5	48.9	78.0	4.98	3,431.0	+3.5	+ 1.6	+ 4.7
Indonesia	8,232	8,625	13,807	10.40	503.2	−2.4	+ 18.4	+ 28.8
Malaysia	3.80	3.80	6.37	3.10	683.8	−0.7	+ 5.8	+ 5.8
Philippines	53.4	50.2	89.6	7.75	1,253.0	+7.2	+ 23.0	+ 22.9
Singapore	1.73	1.79	2.90	0.56	1,486.7	+2.6	+ 10.9	+ 11.0
South Korea	1,185	1,220	1,987	4.26	675.8	+3.8	+ 7.7	+ 7.8
Taiwan	34.5	34.0	57.9	1.25	4,999.1	+4.0	+ 12.3	+ 13.2
Thailand	41.6	42.1	69.8	1.73	446.2	+5.6	+ 25.2	+ 29.7
Argentina	2.80	3.54	4.69	13.69	770.7	+4.6	+ 46.8	+ 76.6
Brazil	2.88	2.70	4.84	26.26	13,510.5	−2.6	+ 19.9	+ 47.1
Chile	706	676	1,184	2.76	6,116.7	+0.2	+ 21.9	+ 24.3
Colombia	2,827	2,393	4,741	7.75	2,031.1	−0.5	+ 26.3	+ 28.1
Mexico	10.57	6.69	17.7	5.31	7,125.4	+2.1	+ 16.3	+ 15.2
Peru	3.47	3.47	5.82	3.71	1,834.8	−1.0	+ 31.8	+ 33.5
Venezuela	1,598	1,236	2,680	16.44	13,541.9	+1.1	+ 69.0	+ 46.6
Egypt	5.99	4.60	10.05	10.18	8,177.1	+3.9	+ 52.2	+ 17.7
Israel	4.39	4.96	7.36	5.09	445.6	+5.6	+ 34.0	+ 45.1
South Africa	7.9	10.2	13.3	12.50	8,868.9	+1.7	− 4.4	+ 3.4
Turkey	1,419,500	1,545,000	2,380,785	37.00	11,107.5	+4.8	+ 7.1	+ 25.3
Czech Republic	26.9	31.9	45.1	2.32	533.0	−6.7	+ 15.7	+ 29.5
Hungary	229	254	383	8.04	7,834.0	−2.2	+ 0.5	− 1.2
Poland	3.77	4.02	6.33	5.26	15,858.5	+2.7	+ 10.4	+ 12.1
Russia	30.4	31.5	51.0	18.00	494.2‡	+6.3	+ 30.9	+ 37.6
EMF (MSCI)*	1.00	1.00	1.68	na	335.6	+3.1	na	+ 14.9
EMBI+†	1.00	1.00	1.68	na	280.6	+0.2	na	+ 22.6

*Emerging Mkts Free. †J.P. Morgan Chase's Emerging Mkts Bond Index Plus. ‡ In $ terms.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

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